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The Toxic Substances Control Act (TSCA) Report to Congress for Fiscal Years 1987 and 1988 details EPA's progress in controlling toxic chemical hazards to human health and the environment. It fulfills the reporting requirements for information about administration of the Act found in TSCA sections 30, 9(d) and 28(c).

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Toxic Substances Control Act (TSCA)

Report to Congress for Fiscal Years 1987 and 1988

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INTRODUCTION

When Congress enacted the Toxic Substances Control Act (TSCA) in 1976, it gave the Environmental Protection Agency (EPA) the authority to identify and control chemical hazards to human health and the environment. This tenth Report to Congress fulfills the reporting requirements for information about the administration of the Act found in TSCA sections 30, 9(d) and 28(c) for Fiscal Years 1987 and 1988. An overview of other major actions under TSCA is found in Appendices A and B.

On October 22, 1986, Congress added Title II to TSCA, by enacting the Asbestos Hazard Emergency Response Act (AHERA). Title II directs EPA to issue regulations affecting asbestos in school buildings and requires the Agency to submit reports to Congress on asbestos in public and commercial buildings and on the availability of liability insurance for local education agencies and asbestos contractors. The law enacted in 1976 became Title I.

TSCA Title I gives EPA the authority to gather certain basic information on chemical risks from chemical manufacturers and processors, and to require companies to test selected existing chemical substances and mixtures (chemicals) for toxic effects. It also requires EPA to review most new chemicals before they are manufactured. The Office of Toxic Substances (OTS) is charged with implementing TSCA.

Under TSCA Title I, EPA has implemented programs to: evaluate chemicals prior to commercialization through

premanufacture notification requirements for new chemical substances and new uses of existing substances; evaluate existing chemicals by requiring testing and the reporting of unpublished health and safety data; and take appropriate control actions after carefully weighing the risks of these chemicals against the benefits they provide.

EPA may regulate a chemical at any point in its life cycle--manufacturing, processing, distribution in commerce, use or disposal.

To prevent unreasonable risks, EPA may select control options that range from requiring hazard-warning labels to outright bans on the manufacture or use of especially hazardous chemicals.

This Report to Congress details EPA's progress in controlling toxic chemical hazards to human health and the environment under TSCA.

CONTROLLING ENTRY OF NEW CHEMICALS

When it enacted section 5 of TSCA, the Congress wanted to ensure that no new chemicals were introduced into the environment until they had been reviewed for potential effects and subjected to appropriate controls.

Consequently, under section 5(a), manufacturers or importers must notify EPA 90 days in advance if they intend to manufacture a new chemical for commercial purposes. During the 90-day premanufacture notification (PMN) period, EPA evaluates the available information about the chemical.

If EPA's review finds few or insignificant risks, it allows production of the chemical to begin without any action by EPA. Ninety percent of the new chemicals reviewed by EPA fall into this category. If EPA finds that there is insufficient information to evaluate the risk, and that the manufacture or use of the chemical may present an unreasonable risk to people or the environment; or that the chemical is produced in large volumes and there may be significant human exposure or release to the environment, EPA is authorized to intervene. It may prohibit or restrict the manufacture, processing, distribution in commerce, use or disposal of the chemical, under section 5(e) of TSCA, until the necessary data are developed.

Options used under section 5(e) include: (1) allowing the PMN submitter to perform the needed tests before production, or to control activities associated with the chemical as though it had been tested and found as toxic as suspected; (2) requiring

the submitter to perform tests before the chemical is produced; and (3) requiring testing once production of the new chemical reaches a prescribed level.

Finally, if EPA reviews a PMN containing sufficient data to evaluate risk and determines that a new chemical presents an unreasonable risk of injury, EPA can prohibit its manufacture, processing, distribution, use or disposal.

EPA also may issue rules under section 5(a)(1) requiring submission of a chemical for review before significant new uses of the chemical may be initiated.

In Fiscal Year 1987, EPA received 2,334 new chemical notices. These included 1,761 PMNs, 30 Test Market Exemption Applications, 253 Polymer Exemption PMNs, and 276 Low Volume Exemption Notices.

Sixty-one new chemicals were subjected to controls by the development of either a section 5(e) order or 5(f) order limiting or prohibiting their manufacture, processing, distribution in commerce, or disposal.

In Fiscal Year 1988, EPA received 3,020 new chemical notices, including 2,436 PMNs, 18 Test Market Exemption Applications, 321 Polymer Exemption PMNs, and 237 Low Volume Exemption Notices. Thirty-four new chemicals were subject to the development of either a section 5(e) or 5(f) order. The total number of new chemical notices received, since the program's beginning in mid-1979, is 13,840. Of these, 392 chemicals have

been subjected to controls by development of a section 5(e) or 5(f) order. Further, industry has voluntarily tested or taken control actions on an additional 237 chemicals.

Tables 1 and 2, which follow, provide detailed summaries of new chemical actions for both fiscal years. None of these chemicals was subject to rulemaking under section 4.

EPA has broadened its approach to new chemical regulation to include action on large-volume chemicals with potential for high human exposures or environmental releases, even in those cases where there is no current indication of possible adverse effects. Since February 1988, more than 50 large-volume new chemicals have been subject to requirements for data on health or environmental effects under the exposure-based authority of section 5(e)(1)(A)(ii)(II).

EPA also is enhancing its process for issuing significant new use rules (SNURs), which require reporting on chemicals before manufacture or processing for significant new uses may begin. A procedural rule that will commit the Agency to issuing SNURs for certain types of chemicals has been proposed, and is in the final stages of promulgation. The revised approach will simplify the process, minimize the time it takes to issue SNURs, make the SNUR program more consistent by establishing criteria for issuance of SNURs, and establish standard language for routine SNUR provisions, making the rule triggers easier to understand, thus aiding compliance.

EPA also is using section 5 to obtain information about genetically altered microorganisms.

These organisms are considered "new", and are subject to premanufacture notification rules if they are manufactured for TSCA purposes. Six PMNs were submitted during FY '87 and FY '88 for genetically altered microorganisms used in closed systems, such as fermenters, that are not intentionally released to the environment.

EPA also has received notices from persons releasing new organisms to the environment during research and development. In FY '87 and '88, EPA has reviewed 20 notices involving R&D releases. All but one of these releases were proposed by one company investigating enhancement of nitrogen-fixing bacteria.

EPA is presently developing a proposed rule that will define a comprehensive approach to regulating microorganisms under TSCA.

Table 1

Summary of New Chemical Actions
October 1, 1986 - September 30, 1987

Actions	No. of Actions in FY'87	Aggregate Total To 09/30/87 (since mid-1979)
Total New Chemical Substance Submissions Received (PMNS; Test Market, Polymer, and Low Volume)	2,334	10,820
Valid PMNs Received (includes Biotechnology)	1,761	9,117a
PMNs Requiring No Further Action	1,405	7,166
Voluntary Testing in Response to EPA Concerns	22	151
Voluntary Control Actions by Submitters	0	45
PMNs Withdrawn in Face of 5(e)/5(f)	44	183
PMNs Subject to section 5(e) Consent Orders *	61	348a
PMNs Subject to Unilateral section 5(e) Orders *	0	16
PMNs Subject to section 5(f) Rules	0	4
Number of Chemicals for which Commencement of Manufacture Notices Were Received	538**	3,830a
Submissions of Bona Fide Intent to Manufacture	399	3,030
New Substances Subject to Proposed Significant New Use Rules (SNURs)	1***	56
New Substances Subject to Final Significant New Use Rules (SNURs)	0***	15
Test Data Received as a Result of Section 5(e) Consent Orders	0	25

Valid Test Market Exemption Applications Received	30	457
Granted	20	397
Withdrawn	4	40
Denied	1	7
Valid Polymer Exemption PMNs Received	253	640
No Further Action Required	212	540
Withdrawn	33	88
Converted to Conventional PMN	4	6
Valid Low Volume Exemption Notices Received	276	594
No Further Action Required	270	568
Withdrawn	4	15
Ineligible	1	1

a: Includes 106 synfuel PMNs.

* A section 5(e) consent order is issued by EPA with the agreement of the PMN submitter. A section 5(e) unilateral order is issued by EPA without the agreement of the PMN submitter.

** This number includes PMNs received in previous fiscal years for which commencement of manufacture notices were received in FY '87.

*** This number includes substances which were the subject of PMNs received in previous fiscal years but for which proposed or final rules were not published until FY '87.

Table 2

Summary of New Chemical Actions
October 1, 1987 - September 30, 1988

Actions	No. of Actions in FY'88	Aggregate Total in FY'88 to 09/30/88 (since mid-1979)
Total New Chemical Substance Submissions Received (PMNS, Test Market, Polymer, and Low Volume)	3,020	13,840
Valid PMNs Received (includes Biotechnology)	2,436	11,565a
PMNs Requiring No Further Action	1,858	9,024
Voluntary Testing in Response to EPA Concerns	41	192
Voluntary Control Actions by Submitters	0	45
PMNs Withdrawn in Face of 5(e)/5(f)	78	261
PMNs Subject to section 5(e) Consent Orders *	34	382a
PMNs Subject to Unilateral section 5(e) Orders *	0	16
PMNs Subject to section 5(f) Rules	0	4
Number of Chemicals for which Commencement of Manufacture Notices Were Received	544**	4,374a
Submissions of Bona Fide Intent to Manufacture	387	3,417
New Substances Subject to Proposed Significant New Use Rules (SNURs)	2***	58
New Substances Subject to Final Significant New Use Rules (SNURs)	0***	15
Test Data Received as a Result of Section 5(e) Consent Orders	6	31

Valid Test Market Exemption Applications Received	18	475
Granted	18	415
Withdrawn	0	40
Denied	0	7
Valid Polymer Exemption PMNs Received	321	961
No Further Action Required	199	739
Withdrawn	46	134
Converted to Conventional PMNs	10	16
Valid Low Volume Exemption Notices Received	237	831
No Further Action Required	233	801
Withdrawn	8	23
Ineligible	0	1

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a: Includes 106 synfuel PMNs.

* A section 5(e) consent order is issued by EPA with the agreement of the PMN submitter. A section 5(e) unilateral order is issued by EPA without the agreement of the PMN submitter.

** This number includes PMNs received in previous fiscal years for which commencement of manufacture notices were received in FY 1988.

*** This number includes substances which were the subject of PMNs received in previous fiscal years but for which proposed or final rules were not published until FY 1988.

IDENTIFYING EXISTING CHEMICALS WHICH POSE UNREASONABLE RISKS

In order to make high-quality, timely toxic chemical management decisions, EPA must have the best available data. Often such information is not available, yet EPA must make decisions in the public interest despite these data gaps. Sections 4 and 8 of TSCA provide some of the chemical testing information needed to close these gaps and guide the decisionmaking process.

Testing of Chemical Substances and Mixtures

Section 4 of TSCA authorizes EPA to require manufacturers or processors of existing chemicals to test their health and environmental effects.

To require testing EPA must find that: A chemical may present an unreasonable risk of injury to human health or the environment; insufficient data are available to reasonably determine or predict the effects of the chemical, and testing is necessary to generate this data. Alternatively, EPA may require testing if the chemical is produced in substantial quantities and it enters or may reasonably be anticipated to enter the environment in substantial quantities, or there is or may be significant or substantial human exposure to the chemical; data are insufficient and testing is necessary to generate this data.

Most chemical testing candidates are suggested by the Interagency Testing Committee (ITC), a committee created by TSCA and composed of members of EPA and other federal agencies.

Chemicals may also be nominated for testing by EPA program offices.

If testing is needed, EPA obtains the necessary data by developing a test rule or negotiating an enforceable consent order. Both specify the chemical to be tested, effects being tested, test standards, schedules for submission of data, and persons responsible for testing.

In Fiscal Year 1987, EPA published 5 notices of proposed rulemaking for the following chemicals: Cyclohexane; 2,6-di-tert-butylphenol; oleylamine; 2-ethylhexanol, and 73 chemicals nominated by the Office of Solid Waste (OSW). Testing of these 73 chemicals, which are constituents of hazardous waste, was requested by OSW to support its efforts under the Resource Conservation and Recovery Act to identify wastes that may be hazardous to human health and the environment.

EPA issued 16 notices of final rulemaking for: 2-ethyl-hexanoic acid; ethyltoluenes and trimethylbenzenes (C9 aromatic hydrocarbon fraction); diethylenetriamine; mesityl oxide; cresols; hydroquinone; biphenyl; anthraquinone; fluoroalkenes; chlorinated benzenes; tetrabromobisphenol; oleylamine; propylene oxide; commercial chemicals potentially contaminated with halogenated dibenzo-p-dioxins/dibenzofurans; and 2-ethylhexanol.

Dioxins and dibenzofurans were initially the subject of a citizens' petition, filed under section 21 of TSCA by the Environmental Defense Fund and the National Wildlife Federation. The petitioners asked EPA to use its authority to analyze the

hazards posed by multimedia releases of these chemicals, to take action to reduce the risks from their release, and to test the chemicals to the extent EPA determined information was lacking.

EPA denied the initial request to issue substantive rules, but granted that part of the petition that requested testing. EPA issued a final rule under sections 4 and 8 requiring certain testing and submission of existing health and safety test data.

One enforceable consent order for 3,4-dichlorobenzotrifluoride was signed.

In Fiscal Year 1988, EPA published 3 notices of proposed rulemaking for tributyl phosphate, isopropanol, and methyl ethyl ketoxime. The Agency also published 10 notices of final rulemaking for: 1,2-dichloropropane; benzyl butyl phthalate (withdrawal of proposed rule); methylcyclopentane; diethylene glycol butyl ether acetate; cumene; anilines (termination of rulemaking); 2-mercaptobenzothiazole; commercial hexane; diethylene glycol butyl ether; and 33 OSW chemicals.

Enforceable consent orders for methyl-tert butyl ether and anilines also were signed.

For test rules promulgated in FY '87, EPA estimates that the total testing costs over the life of the testing program will range from $9.3 million to $11.4 million dollars. Costs for FY '88 are estimated to range from $4.4 million to $6 million dollars. These estimates do not include testing costs associated with consent orders.

Tables 3 and 4, which follow, provide a summary of these specific testing actions.

While the major use of section 4 thus far has been to respond to ITC recommendations for individual chemicals or closely related categories of chemicals, OTS is placing new emphasis on developing rules to obtain test data for other EPA programs. In the past two years, test rules were developed for the Office of Water and the Office of Solid Waste. Additional proposals for the Office of Water are planned for 1989.

Another potential future source of section 4 testing candidates is the Superfund Amendments and Reauthorization Act (SARA). The Toxic Chemical Release Inventory requirements under section 313 of the Act may reveal previously unrecognized potential exposures to toxic chemicals for which little hazard data are available.

Section 110 of SARA requires the Administrator of the Agency for Toxic Substances and Disease Registry to coordinate SARA research programs with the testing program under TSCA. The first TSCA proposed test rule using this approach is being developed with two federal agencies, the Agency for Toxic Substances and Disease Registry and the National Toxicology Program. It is expected to be proposed during 1990.

Since its creation, the section 4 testing program has provided EPA with valuable data on the health and environmental effects of chemicals. By the end of FY '88, EPA developed over 40 proposals, and completed 25 test rules and 3 testing consent

orders. These test rules, and similar testing agreements negotiated with industry, generated nearly 700 studies.

Reporting and Recordkeeping

Section 8 of TSCA, with its recordkeeping and reporting requirements, gives EPA powerful tools for gathering information about potentially toxic chemicals.

Under section 8(e) of TSCA, manufacturers, processors and distributors of chemicals must notify EPA immediately if they obtain information which reasonably supports the conclusion that a substance presents a substantial risk of injury to human health or the environment. In addition to these "substantial risk" notifications, manufacturers may provide voluntary "for your information" (FYI) submissions to EPA.

The section 8(e) program has been the most productive of all section 8 authorities in identifying potentially hazardous chemicals. Substantial risk notices may include preliminary findings from toxicity testing programs, chemical effects on humans in the workplace, and ecological effects data. More than 750 initial section 8(e) submissions, and more than 640 voluntary "for your information" submissions from industry have been received since TSCA's enactment.

In 1987, EPA received 60 initial section 8(e) submissions, 178 supplemental or follow-up section 8(e) submissions, and 159 FYI submissions. In 1988, there were 60 initial section 8(e) submissions, 214 supplemental or follow-up section 8(e) submissions, and 143 FYI submissions.

Much of this information is shared, through an automatic referral system, with other EPA program offices as well as the Occupational Safety and Health Administration, Consumer Product Safety Commission, Food and Drug Administration, National Institute for Occupational Safety and Health, and National Toxicology Program.

In addition to these automatic referrals, EPA may target a chemical for action by a particular agency. In one case, EPA received a section 8(e) submission for 4-chloro-2-methylaniline (4-CMA), that raised concerns about bladder cancer in 4-CMA workers. EPA recognized that these findings were relevant to its assessment of a pesticide, chlordimeform, because 4-CMA is a precursor and metabolite of chlordimeform. EPA and NIOSH are considering a risk notification program for current and former 4-CMA and chlordimeform workers.

In another instance, EPA received section 8(e) data indicating that n-butyl acetate, which was previously thought to have a low order of toxicity, was acutely toxic. This information was referred to OSHA, for use in its efforts to update Permissible Exposure Limits.

Under TSCA section 8(d), EPA has developed a generic rule that requires chemical companies to submit unpublished health and safety studies on chemical substances and mixtures. Two types of data are covered: Copies of all study reports in the possession or control of the company; and lists of all ongoing company studies, and ongoing or completed studies that the company is

aware of but does not possess. Two hundred and forty-two chemical substances and 15 categories had been added by amendment to the generic section 8(d) rule by the end of FY '88.

EPA has been working to make its TSCA information gathering rules useful to other EPA program offices and Federal Agencies. A section 8(d) Health and Safety Data Rule listed 102 chemicals of interest to OTS, other EPA offices, and the Consumer Product Safety Commission.

Section 8(a) of TSCA allows the collection of production, use, and exposure data from chemical manufacturers and processors, and can require the retention of certain records.

One section 8(a) rule, the Preliminary Assessment Information Rule (PAIR), allows EPA to collect readily obtainable information needed for preliminary risk assessments on specified substances. By the end of FY '88, EPA used PAIR to gather data on approximately 380 chemical substances.

In an effort to coordinate information collection within EPA and among other Federal agencies, EPA promulgated the Comprehensive Assessment Information Rule (CAIR). This section 8(a) rule will be used to gather information to support the assessment and regulation of chemicals. The first set of 19 chemicals subject to CAIR includes substances nominated by NIOSH as well as by EPA. Additional substances, nominated by EPA or other Federal agencies, will be added to CAIR in the future.

Section 8(c) of TSCA requires manufacturers and processors of chemical substances and mixtures to maintain records involving allegations of adverse effects to human health or the environment believed to have been caused by chemical substances or mixtures. Any person may make such an allegation, which must then be retained by industry.

EPA expects that individual companies will use the 8(c) records to identify problems associated with the chemicals that they manufacture, and take steps to resolve them.

This section also creates an historical record of significant adverse reactions alleged to have been caused by a chemical substance. EPA can inspect these records, and require industry to report the information contained in them.

Table 3

SUMMARY OF SECTION 4 CHEMICAL TESTING ACTIONS
FY '87

Testing in Response to the Interagency Testing Committee (ITC)

Date	Chemical	Action	ITC List
11/06/86	2-Ethylhexanoic acid	Notice of Final Rulemaking; requires testing for subchronic toxicity, developmental toxicity, and pharmacokinetics studies.	14
01/23/87	Ethyltoluenes	Notice of Final Rulemaking; specifies test standards and reporting requirements for testing of the C9 aromatic hydrocarbon fraction.	10
01/23/87	Trimethylbenzenes (C9 aromatic hydrocarbon fraction)	Notice of Final Rulemaking; specifies test standards and reporting requirements for testing of the C9 aromatic hydrocarbon fraction.	10
02/03/87	Diethylenetriamine	Notice of Final Rulemaking; specifies use of EPA-modified, industry-submitted plans as the test standards and reporting requirements for this testing.	8
05/20/87	Cyclohexane	Notice of Proposed Rulemaking; proposes testing for subchronic toxicity, developmental toxicity neurotoxicity, dermal absorption and dermal sensitization.	18
05/20/87	Mesityl oxide	Notice of Final Rulemaking; specifies test standards and reporting requirements for testing of this substance.	4
05/20/87	Cresols	Notice of Final Rulemaking; specifies test standards and reporting requirements for testing of ortho, meta and para cresols.	1

05/28/87	Hydroquinone	Notice of Final Rulemaking; specifies test standards and reporting requirements for testing this substance.	5
06/03/87	Biphenyl	Notice of Final Rulemaking; requires environmental effects and chemical fate testing, and announces adoption of study plans and schedules submitted by the Biphenyl Work Group.	10
06/04/87	Anthraquinone	Notice of Final Rulemaking; requires manufacturers and processors to conduct chemical fate and environmental effects testing, and to report annually the volume manufactured or imported during the latest corporate fiscal year.	15
06/08/87	Fluoroalkenes	Notice of Final Rulemaking; requires certain health effects testing for the following fluroalkenes: Vinyl fluoride, vinylidene fluoride, hexafluoropropene and tetrafluoroethene, and also withdraws proposed reproductive effects testing for vinylidene fluoride.	7
06/25/87	2,6-di-tert-butylphenol	Notice of Proposed Rulemaking; proposes chemical fate and environmental effects testing.	18
07/01/87	Certain chlorinated benzenes	Notice of Final Rulemaking; specifies test standards and reporting requirements for environmental effects testing of 1,2,3- and 1,2,4-chlorobenzene. The chemical fate testing requirements, which were met as a result of the proposed rule, are withdrawn.	1/3
07/06/87	Tetrabromobisphenol A	Notice of Final Rulemaking; requires testing for chemical fate and environmental effects.	16

08/24/87	Oleylamine	Notice of Final Rulemaking; requires certain toxicity testing of this chemical.	13
08/24/87	Oleylamine	Notice of Proposed Rulemaking; proposes TSCA test guidelines be used as standards and proposes deadlines for submission of test data.	13
09/23/87	Propylene oxide	Notice of Final Rulemaking; specifies test standards and reporting requirements for inhalation and developmental toxicity testing.	1

Other Testing Actions

12/19/86	2-Ethylhexanol	Notice of Proposed Rulemaking; proposes 2-year oral oncogenicity bioassays in rats and mice.
05/29/87	Solid Waste Chemicals (73 Chemicals)	Notice of Proposed Rulemaking; proposes testing for human health effects and/or chemical fate in support of EPA's hazardous waste regulatory program under RCRA.
06/05/87	Halogenated dibenzo-p-dioxins/ dibenzofurans (HDDs/HDFs)	Notice of Final Rulemaking; requires manufacturers and importers to test 12 organic chemicals for HDD/HDF contamination. Also requires testing of 20 organic chemicals, not currently manufactured or imported, if manufacture or importation resumes.
06/23/87	3,4-Dichlorobenzotrifluoride	Consent Order; Occidental Chemical Corporation agrees to perform certain chemical fate and environmental effects testing.
08/03/87	2-Ethylhexanol	Notice of final rulemaking; requires a 2-year oncogenicity bioassay.

Table 4

SUMMARY OF SECTION 4 CHEMICAL TESTING ACTIONS
FY '88

Testing in Response to the Interagency Testing Committee (ITC)

Date	Chemical	Action	ITC List
10/05/87	1,2-Dichloropropane	Notice of Final Rulemaking; specifies test standards and schedules for pharmacokinetic testing.	3
10/29/87	Benzyl butyl phthalate	Withdrawal of Proposed Rule; withdraws proposal to require certain environmental fate and effects testing, because testing was completed by industry.	7
11/12/87	Tributyl phosphate	Notice of Proposed Rulemaking; proposes testing for health effects, including neurotoxicity, mutagenicity, oncogenicity, dermal sensitization, oral/dermal pharmacokinetics, developmental and reproductive toxicity. Also proposes environmental effects and chemical fate testing.	18
02/05/88	Methylcyclopentane	Notice of Final Rulemaking; Terminates rulemaking for methylcyclopentane because EPA believes testing is not necessary at this time.	10
02/26/88	Diethylene glycol butyl ether acetate	Notice of Final Rulemaking; requires testing for dermal absorption.	13
03/16/88	Isopropanol	Notice of Proposed Rulemaking; proposes health effects testing for oncogenicity, mutagenicity, neurotoxicity, pharmacokinetics, and subchronic, reproductive and developmental toxicity.	2

03/31/88	Methyl tert-butyl ether	Consent Order; requires health effects testing for mutagenicity, pharmacokinetics, neurotoxicity, oncogenicity, developmental toxicity, reproductive and fertility effects, and subchronic effects.	19
07/27/88	Cumene	Notice of Final Rulemaking; requires health effects testing including oral and inhalation pharmacokinetics, subchronic inhalation toxicity, developmental toxicity and neurotoxicity. Also requires environmental effects and chemical fate tests including acute toxicity to fish and invertebrates, biodegradation in an aquatic system, and volatilization from an aquatic system.	15
08/19/88	Aniline and seven substituted anilines	Consent orders; require health and environmental effects testing for aniline and 2-chloroaniline, health effects testing only for 2-nitroaniline, 3,4-dichloroaniline, 2,4-dinitroaniline, 4-nitroaniline, and 4-chloroaniline, and environmental effects only for 2,6-dichloro-4-nitroaniline.	4
08/19/88	Anilines	Termination of rulemaking; terminates proposed health effects testing for 13 chemicals because there is no basis for a finding that any of these chemicals may present an unreasonable risk of injury to human health and no substantial or significant human exposure. Also terminates proposed environmental effects testing for 17 chemicals, because there is no substantial release to the environment, or adequate data are available.	4

09/07/88	2-Mercaptobenzo-thiazole	Notice of Final Rulemaking; requires health effects testing for developmental and reproductive toxicity, neurotoxicity and mutagenicity. Also requires environmental effects and chemical fate tests including persistence and mobility, and chronic aquatic toxicity.	15
09/15/88	Methyl ethyl ketoxime	Notice of Proposed Rulemaking; proposes health effects testing for oncogenicity, mutagenicity, developmental toxicity, reproductive effects, neurotoxicity and pharmacokinetics.	19

Other Testing Actions

02/05/88	Commercial hexane	Notice of Final Rulemaking; requires testing for oncogenicity, mutagenicity, neurotoxicity, inhalation and dermal pharmacokinetics, also subchronic, reproductive and developmental toxicity.
02/26/88	Diethylene glycol butyl ether	Notice of Final Rulemaking; requires testing for subchronic toxicity with particular emphasis on reproductive, hematological and kidney effects, neurotoxicity, developmental neurotoxicity and pharmacokinetics.
06/15/88	Office of Solid Waste chemicals	Notice of Final Rulemaking; requires subchronic toxicity testing for 8 chemicals, hydrolysis testing for 17, and soil sorption testing for 7. Also recommends anaerobic biodegradation testing for 32.

REGULATION OF HAZARDOUS CHEMICAL SUBSTANCES AND MIXTURES

EPA has the authority to prohibit or limit the manufacture, import, processing, distribution in commerce, use or disposal of a chemical that poses an unreasonable risk of injury to human health or the environment. Under section 6, a number of possible control options are available, ranging from total prohibition to labeling.

Five section 6 rules were published in Fiscal Year 1987; an additional 6 were published in Fiscal Year 1988.

Polychlorinated Biphenyls (PCBs)

Since the first PCB rules were published in 1978, EPA has developed a comprehensive control program for these toxic chemicals. EPA regulates every phase of PCB's existence through rules that generally ban the manufacture, processing, and distribution of PCBs in commerce; strictly limit the use of PCB-containing electrical equipment, and require proper disposal of PCBs. In FY '87 and FY '88, EPA expanded its PCB control program to meet newly identified needs.

EPA promulgated its Polychlorinated Biphenyls Spill Cleanup Policy on April 2, 1987 (52 FR 10688). The policy establishes the measures that EPA considers adequate to clean up most PCB spills that occur during activities regulated by TSCA.

EPA proposed (July 8, 1987; 52 FR 25838) and finalized (June 27, 1988; 53 FR 24206) amendments to the PCB Exclusions, Exemption and Use Rule. The final rule amends existing rules by excluding additional materials containing less than 50 ppm PCBs

from regulation under section 6(e). EPA has found that activities allowed under the rule do not present unreasonable risks of injury to public health or the environment.

EPA proposed (August 21, 1987; 52 FR 31738) and finalized (July 19, 1988; 53 FR 27322) amendments to a rule governing the use of PCBs in electrical transformers. The rule: (1) describes the limited circumstances under which PCB transformers can be installed in buildings; (2) prohibits the use of radial PCB (high secondary voltage) transformers after October 1, 1990; (3) requires that low secondary voltage network transformers located in or near commercial buildings be removed from service by October 1, 1993, if not equipped with enhanced electrical protection; and (4) requires low secondary voltage transformers located in sidewalk vaults be removed by October 1, 1993.

EPA has proposed a rule that would address 12 individual and class petitions for exemption from the prohibition against the manufacture, processing and distribution of PCBs in commerce. The proposed rule (August 24, 1988; 53 FR 32326) would grant 8 of the petitions and deny the remaining 4.

EPA also proposed a rule to amend storage and disposal regulations covering PCBs (September 26, 1988; 53 FR 374360). The proposed rule would improve the tracking system for PCB wastes, and add an approval mechanism for commercial storers who accept and store PCB wastes prior to their disposal.

EPA, in an action related to regulation of PCBs under section 6, notified the Institute of Scrap Recycling Industries,

Inc., and state and municipal officials of TSCA's prohibitions on the manufacture, processing, distribution in commerce, use and disposal of PCBs. The Agency took this action in spring, 1988, when it became aware that some non-metallic shredded waste from metal recycling operations (called "fluff") was contaminated with PCBs. EPA responded to inquiries from industry, state and local governments, and the Congress about the applicability of PCB regulations, and to requests for additional Federal guidance.

Asbestos

EPA is one of several Federal agencies that regulates asbestos, a substance which can cause cancer and chronic lung disease. Together, they provide a comprehensive program that protects workers and the public from asbestos exposure. Major EPA rules address asbestos-containing materials in schools, and protection of state and local government workers involved in asbestos abatement activities. Rules developed in FY '87 and '88 broaden these protections.

Under section 6 of Title I of TSCA, EPA promulgated a final rule that strengthens protection of state and local government asbestos workers (February 25, 1987; 52 FR 5623). It establishes requirements which must be followed during asbestos abatement projects by employers of state and local government employees, who are not otherwise covered by EPA or Occupational Safety and Health Administration rules.

EPA also issued a final rule under Title II of TSCA (AHERA) regulating asbestos-containing materials in schools

(October 30, 1987; 52 FR 41826). It requires all local education agencies to identify asbestos-containing materials and take appropriate action to control the release of asbestos fibers.

In 1988 EPA released the draft Regulatory Impact Analysis for the final rule on asbestos phaseout.

Hexavalent Chromium Chemicals

EPA proposed a rule (March 29, 1988; 53 FR 10206) that would prohibit the commercial use of hexavalent chromium-based water treatment chemicals in new and existing comfort cooling towers (CCTs). The proposal also would prohibit their distribution for use in comfort cooling towers. EPA is taking this action because it has determined that the use of these chemicals in CCTs presents an unreasonable risk of injury to human health and that TSCA is the most effective means to control this risk. EPA has determined that hexavalent chromium compounds are potent cancer-causers in humans.

Risk to public health from hexavalent chromium air emissions from CCTs typically would be addressed under the Clean Air Act (CAA). Consequently, pursuant to TSCA section 9, EPA compared the potential requirements for regulating these emissions under TSCA and the CAA to determine which was most appropriate. After analysis, the Agency found that Section 6 provided the best regulatory and enforcement options, that TSCA is the most appropriate authority for this rulemaking, and that it is in the public interest to protect against this risk under TSCA.

Procedural Rule

EPA has proposed a rule to amend its procedural regulations (June 17, 1987; 52 FR 23054) to clarify that rulemaking under section 6 of TSCA may begin with publication in the Federal Register of a notice of proposed rulemaking, an advance notice of proposed rulemaking, or notice of other appropriate action designed to lead to issuance of rules within a reasonable time.

RELATIONSHIP OF TSCA TO OTHER FEDERAL LAWS

TSCA requires EPA to coordinate its activities with those of other federal agencies involved in control of toxic chemicals. During Fiscal Years 1987 and 1988, EPA worked with U.S. government agencies, as well as representatives of other nations, on complex chemical control issues.

Research

EPA has funded joint projects with the National Institute for Occupational Safety and Health (NIOSH) to improve its ability to assess exposure to chemicals regulated under the Premanufacture Notification program. These studies contribute significantly to the Agency's assessments of industrial exposure, and to the development of new methods to evaluate exposure control options.

Projects that were completed or are under way now include:

* A study of airborne exposure while using glove bags during removal of asbestos-containing pipe coatings, and of the potential to reduce exposures by improving design;

* A study of the effectiveness of technologies for reducing asbestos exposure during brake maintenance;

* Development of improved monitoring techniques to measure aerosol concentrations in biotechnology facilities;

* Surveys of facilities using acrylate formulations in inks and coatings, to characterize exposure to a class of chemicals frequently encountered in new chemical review;

* Surveys and monitoring of facilities using butadiene;

* Research on respirators to determine actual workplace protection factors.

EPA assisted the Department of Housing and Urban Development (HUD) with the design and implementation of the HUD national survey of lead-based paint in residences, as well as the HUD lead-based paint abatement demonstration project, which will measure the efficacy and cost of methods for reducing health risks from exposure to lead-based paint.

The Agency also participated with the General Services Administration (GSA), in a pilot study of inspection and maintenance practices for managing asbestos in buildings, and in a pilot program of inspection and training for managing of asbestos in public buildings. In related activity, EPA and GSA held a series of training sessions across the country to instruct technical staff in proper inspection and management practices.

Another asbestos-related project was the development, with the National Institute for Standards and Technology, of two asbestos laboratory accreditation programs. One program covers laboratories analyzing bulk materials from buildings to determine their asbestos content; the other, laboratories that analyze the asbestos content of air samples collected following asbestos abatement projects.

Data Collection and Review

Senior managers of EPA meet regularly with senior managers from the Occupational Safety and Health Administration (OSHA) and NIOSH as part of the OSHA-NIOSH-EPA (ONE) Committee. Members of

the ONE Committee have met about once a month for the past two years to ensure coordination among the three Federal agencies with responsibility for the Federal occupational health program. The Committee's goal is, through discussion of risk assessment and regulatory matters, and coordination of activities, to operate the three programs as "One" national program. EPA maintains the Chemical Activity Calendar database for the ONE Committee, tracking information about some 1,200 chemicals that are or may be considered for testing or regulatory action.

During 1987 and 1988, EPA, the Agency for Toxic Substances and Disease Registry (ATSDR), the National Toxicology Program (NTP), and the Oak Ridge National Laboratory reviewed data for chemicals of mutual interest to agencies under TSCA, as well as the Superfund Amendments and Reauthorization Act for chemicals on the National Priority List. In coordination with the other agencies, EPA assisted ATSDR in preparing toxicological profiles of these chemicals and submitted them for joint agency review.

EPA and NTP sponsored a Workshop on the Relationship Between Short-term Test Information and Carcinogenicity in January, 1987. The workshop provided the data that are needed to update the mutagenicity testing scheme used to determine test requirements under sections 4 and 5 of TSCA.

EPA has helped other agencies meet its standards for cleaning up spills of polychlorinated biphenyls (PCBs). EPA reviewed PCB plans for the Department of Interior, the General

Services Administration, military facilities, the Department of Energy, and the U.S. Customs Service.

During 1987 and 1988, EPA participated in the interagency Biotechnology Science Coordination Committee. This group, with members from the U.S. Department of Agriculture (USDA), National Science Foundation (NSF), National Institutes of Health (NIH), and Food and Drug Administration (FDA), met concerning EPA's development of a regulatory program on biotechnology products.

EPA also coordinated its review of microorganisms subject to the TSCA Premanufacture Notification program with several agencies to assure the safety of microbial products, while minimizing impediments to technological and economic advances in biotechnology. EPA consulted, on a case-by-case basis, with USDA, FDA, NIH and the Consumer Product Safety Commission (CPSC). Before completing its assessment of a microorganism's potential risk to human health or the environment, EPA obtained comments from the appropriate agencies.

EPA's Office of Toxic Substances leads an interagency committee on chlorinated solvents, whose members are drawn from EPA offices, OSHA, CPSC, and FDA. The committee's goals are to determine whether chlorinated solvents present an unreasonable risk of injury to human health and the environment, and whether regulatory controls are needed to eliminate or reduce exposures to them. Four major use categories are being studied: Dry cleaning, solvent cleaning, paint stripping, and aerosols. Analyses of the first two categories have been completed.

Frequently, chemicals reported to EPA under the new chemicals program raise workplace exposure concerns. EPA coordinates its efforts to provide adequate hazard communication and worker training with OSHA. The Agency's goal is to ensure that EPA's requirements parallel OSHA's Hazard Communication Standard.

EPA participated in OSHA's efforts to update Permissible Exposure Levels for workplace exposure to certain chemicals. EPA reviewed the proposed standards, focusing on obtaining broad-based scientific feedback on chemicals for which there are potentially serious scientific or policy issues, and reported its findings to OSHA.

International Activities

EPA played a lead role in the design, planning and implementation of the EXICHEM data base, introduced by the Organization for Economic Cooperation and Development (OECD) in November, 1987. This data base contains information from member countries of OECD on ongoing and planned activities on existing chemicals.

EPA also participates in OECD chemical-specific information clearinghouses which facilitate the exchange of information among member countries. EPA manages two of these clearinghouses, and actively contributes to the others.

EPA also regularly contributes data to the WHO/International Programme on Chemical Safety (IPCS) data base called Computerized Listing of Chemicals Being Testing for Toxic Effects (CCTTE).

This data base carries information of ongoing or recently performed toxicological research, such as chronic and subchronic health effects studies. IPCS distributes it world-wide to help prevent duplication of testing.

The Agency is now engaged in discussions on a cooperative testing program regarding dinitrotoluenes with the Federal Republic of Germany, and multilateral discussions are underway to identify overlapping data needs on paradichlorobenzene.

EPA has worked with the government of Mexico on building a hazardous waste/PCB incinerator in Tijuana, and has provided engineering support for the project. The Agency will assist Mexico in 1989 when tests of the new facility begin.

COMPLIANCE AND ENFORCEMENT

EPA has developed specific strategies to enforce regulations under TSCA. These strategies identify and rank possible violations, identify the available tools for compliance monitoring, specify how these tools are to be used, and provide a formula to determine the application of inspection resources. Where inspections uncover violations of TSCA requirements, EPA levies civil penalties, as authorized by section 16 of TSCA.

Program Action

During FY 1987, EPA developed and issued compliance monitoring strategies for the TSCA section 8(a) Inventory Update Rule and the proposed CAIR Rule. EPA also developed and issued a TSCA section 8, 12, and 13 Enforcement Response Policy (ERP), as well as a clarification of the TSCA section 5 ERP (Notices of Commencement).

In addition, EPA continued cooperative enforcement programs to monitor compliance with the PCB regulations in the following States: California, Connecticut, Florida, Iowa, Kansas, Maryland, Michigan, Missouri, New Hampshire, North Dakota, Ohio, Puerto Rico, Texas, and Washington. EPA also continued cooperative enforcement agreements to monitor compliance with Asbestos-In-Schools regulations in the States of Arizona, Colorado, Iowa, Maryland, New Hampshire, Oklahoma, Texas, West Virginia, and Wisconsin. In FY 1987, the states conducted 1,143 PCB compliance inspections and 877 Asbestos-In-Schools compliance inspections.

The Oklahoma Asbestos-In-Schools and the Florida PCB cooperative enforcement agreement programs were completed in FY 1987.

In FY 1988, a compliance monitoring strategy was developed and issued for TSCA Title II (AHERA). EPA amended the compliance monitoring strategy for the Asbestos Abatement Projects Worker Protection Rule and the PCB Strategy, and proposed revisions to the TSCA Good Laboratory Practice (GLP) regulations.

EPA developed and issued a revised Policy ERP for TSCA section 5; an ERP for the Immediately Enforceable Provisions of AHERA; a policy on the transition from the Asbestos-In-Schools Rule (AIS) to AHERA, and a clarification of the TSCA section 6 PCB ERP.

EPA continued cooperative enforcement programs to monitor compliance with the PCB regulations in the States of California, Connecticut, Iowa, Kansas, Maryland, Michigan, Missouri, New Hampshire, New Mexico, North Dakota, Ohio, Puerto Rico, Texas, and Washington; as well as cooperative enforcement agreements to monitor compliance with Asbestos regulations in the states of Arizona, Colorado, Idaho, Iowa, Maryland, New Hampshire, Oklahoma, Texas, Vermont, West Virginia, and Wisconsin. In FY 1988, the States conducted 1,253 PCB compliance inspections and 468 asbestos compliance inspections.

Compliance Actions

In FY 1987 and FY 1988 EPA conducted a broad range of inspections for TSCA requirements.

In FY 1987, EPA, along with 14 state agencies cooperating under the terms of enforcement grants-in-aid, conducted 2,616 PCB compliance monitoring inspections. In addition, the Agency, operating under a cooperative agreement with the American Association of Retired Persons, and the States of Arizona, Colorado, Iowa, Maryland, New Hampshire, Oklahoma, Texas, West Virginia, and Wisconsin conducted 2,694 Asbestos-In-Schools inspections.

EPA also monitored compliance with TSCA sections 4, 5, 8, and 13. EPA inspected 13 laboratories conducting testing under TSCA to determine if the laboratories were in compliance with GLP requirements. During these inspections EPA conducted 21 audits of health and environmental tests to determine if testing had been conducted according to test protocols, and if reports accurately reflected study findings. EPA also conducted over 814 inspections to determine compliance with sections 5 and 8 requirements. The Agency conducted a total of 864 inspections to determine compliance with section 13, chemical import requirements.

In FY 1988, EPA, along with 14 state agencies cooperating under the terms of enforcement grants-in-aid, conducted 2,554 PCB compliance monitoring inspections. In addition, the Agency, operating under a cooperative agreement with the American

Association of Retired Persons, and the states of Arizona, Colorado, Idaho, Iowa, Maryland, New Hampshire, Oklahoma, Texas, Vermont, West Virginia, and Wisconsin, conducted 1,233 Asbestos inspections.

The Agency also monitored compliance with TSCA sections 4, 5, 8, and 13 requirements. EPA inspected 17 laboratories to determine if they were in compliance with GLP requirements. During these inspections EPA conducted 29 audits of health and environmental tests to determine if testing had been conducted according to test protocols, and if reports accurately reflected study findings. EPA also conducted over 816 inspections to determine compliance with section 5 and 8 requirements. The Agency conducted a total of 673 inspections to determine compliance with section 13, chemical import requirements.

International

During FY '88, EPA entered into "Memoranda of Understanding" with the United Kingdom, Switzerland and Japan regarding Good Laboratory Practices. Each agreement calls for the reciprocal recognition of each country's good laboratory practice compliance program, acceptance of test data generated in each country for evaluation of safety, and implementation of procedures for continuing mutual cooperation between the countries. The Memoranda of Understanding were signed with Japan in September 1987, with the United Kingdom in March 1988, and with Switzerland in June 1988.

Civil Enforcement Actions

In FY 1987, a total of 1,051 administrative complaints were issued. For failure to comply with the import certification requirements (section 13) the Agency issued 25 civil administrative complaints. The Agency issued 563 civil administrative complaints for alleged violations of the section 6 asbestos-in-schools requirements and 445 administrative complaints as a result of PCB inspections. In addition, EPA issued 5 civil complaints for alleged violations of section 8 and 13 civil complaints for violations of section 5.

In FY 1988, the Regions and Headquarters issued a total of 607 administrative complaints. For failure to comply with the import certification requirements (section 13) the Agency issued 20 civil administrative complaints. The Agency issued 81 civil administrative complaints for alleged violations of the section 6 asbestos requirements and 475 administrative complaints as a result of PCB inspections. In addition, EPA issued 11 civil complaints for alleged violations of section 8 and 15 civil complaints for violations of section 5. Moreover, 5 civil complaints were issued for violations of Section 4.

Figures for each EPA Regional Office and Headquarters appear in Tables 5 and 6.

The following are case summaries of significant TSCA civil administrative and judicial cases concluded during FY 87 and FY 88.

United States v. Alyeska Pipeline Service Company (No. 86-4427; D.C. No. CV86-583-F, 9th Circuit Court of Appeals)

EPA filed a Motion To Show Cause in the District Court of Alaska to require the Alyeska Pipeline Service Company to comply with an investigative subpoena issued to Alyeska, in response to allegations that they were mishandling chemical substances or waste materials. In December, 1987, Chief Judge Fitzgerald, of the District Court of Alaska, issued a written opinion upholding the Agency's authority to use TSCA section 11 subpoenas to conduct investigations. The decision is the first written decision of any court concerning EPA's TSCA subpoena authority. The decision was upheld in January, 1988 by the Ninth Circuit Court of Appeals.

U.S. v. Texas Eastern Transmission Corporation (Civil Action 88-1917, lodged with the U.S. District Court, Houston, TX)

This action requires Texas Eastern Transmission Corporation, which owns and operates a natural gas pipeline system that stretches from the Gulf Coast to the northeast United States, to pay a civil penalty of $15 million, the largest amount ever obtained for violation of an environmental statute.

In late 1987, EPA initiated enforcement action against Texas Eastern to obtain remediation of contamination caused by discharge of liquids contaminated with PCBs and other pollutants to earthen pits and other sites along the pipeline system. On June 10, 1988, a Consent Decree was lodged with the District Court settling the Agency's enforcement action. The provisions of the Consent Decree establish several important precedents for

EPA enforcement activities. In addition to payment of the civil penalty, Texas Eastern is required to complete an investigation and cleanup of all compressor station sites and other contaminated areas. The estimated $400 million cost for characterization and remediation is the largest commitment for environmental cleanup ever obtained from a single company. Texas Eastern also is required to implement extensive modifications to pipeline equipment and operating procedures, and to pay up to $18 million to fund the oversight of characterization and remediation activities.

American Telephone and Telegraph Company (Docket No. 87-H-09)

This action was brought seeking civil penalties for the illegal production and use of two chemical substances that the American Telephone and Telegraph Company (AT&T) had manufactured, without first listing the chemicals with the TSCA Chemical Substances Inventory, as required by section 5 of TSCA. A civil penalty of $2.65 million dollars was sought in the complaint. Although AT&T voluntarily disclosed the violations to EPA, EPA viewed these violations as serious because the Agency was precluded from conducting required premanufacture safety review of the chemicals before the substances were manufactured and distributed in commerce. In the settlement, AT&T agreed to pay a civil penalty of $1.0 million dollars and to implement a number of specific types of compliance activities, including: Corporate-wide employee education concerning TSCA requirements, payment of all costs for a number of public service announcements about TSCA

requirements applicable to the electronics and semiconductor industry, and the initiation and completion of a comprehensive TSCA compliance survey audit at all AT&T domestic facilities. The compliance survey, which began in July, 1987, will assess compliance with sections 5, 8(a), 8(c), 8(d), 12, and 13 of TSCA. EPA retained the authority to initiate criminal enforcement actions or actions to abate situations involving imminent hazards during the term of the compliance survey. For violations discovered by AT&T as the result of the audit, AT&T agreed to pay as a stipulated penalty the sum of $10,000 for each chemical found to be in violation of any or all of TSCA section 5, 8(a), 8(c), 8(d), 12, or 13, unless EPA determines that the chemical or chemical substances presents an unreasonable risk of injury to health or the environment. For chemicals identified in the survey and found by EPA to represent an unreasonable risk, EPA reserved the right to seek penalties of up to $1.0 million per chemical.

Canon U.S.A. Incorporated (Docket No. 86-H-03)

Canon U.S.A. of Lake Success, New York, the American subsidiary of the Japanese Canon Corporation, was charged in this administrative complaint with violations of TSCA section 5 premanufacture notice requirements and the section 13 import certification requirements. These violations arose in connection with the manufacture and import into the United States of two photocopier toners containing chemical substances not listed on the TSCA inventory. The complaint sought a civil penalty of $1.6

million dollars. Canon voluntarily disclosed the violations to EPA upon their discovery.

The consent agreement negotiated in the Canon case requires the payment of a civil penalty of $400,000 and the initiation and satisfactory completion of a number of items of specific performance, including: Development and implementation of a training program on U.S. requirements; translation of EPA TSCA requirements, regulations and guidance documents into the Japanese language; and presentation of a comprehensive seminar on American TSCA requirements for Japanese businesses involved in the export of chemicals to the United States. This seminar was held in Tokyo, Japan in the spring of 1987 and included the participation of several representatives of EPA's Office of Pesticides and Toxic Substances.

DeLonghi America, Inc. (Docket No. 87-H-04)

This action concerns the illegal import, sale, distribution in commerce and export of oil-filled portable electric space heaters from Italy by DeLonghi. The violations were initially discovered by Environment Canada. EPA tests confirmed that several shipments of heaters contained oil contaminated with high levels of PCBs. The import of PCBs and PCB items was banned in 1980. Since these heaters were sold in commerce for home use, EPA considered the violations to be serious. EPA issued a civil administrative complaint for the assessment of a $1,507,000 penalty for these violations. DeLonghi entered into a consent agreement with the Agency on June 8, 1988. The agreement

requires DeLonghi to pay a penalty of $500,000 for the illegal import and export. In addition, DeLonghi will send out notices to 70,000 warranty card holders, informing them that the heaters with serial numbers 86-20 or lower may contain PCBs. A toll-free phone number to assist consumers and retailers with questions about the handling and disposal of these appliances will be set up. A quality assurance program to ensure that future imports are PCB-free will also be established.

Exxon Chemical Americas (Docket No. 86-H-02)

This action charged Exxon with three violations of TSCA for failure to submit a notice of its intention to manufacture a new chemical substance as required by TSCA section 5. Exxon provided the Agency with batch production records revealing that it had manufactured and used for a commercial purpose a chemical substance not listed on the TSCA inventory. The complaint sought a civil penalty of $34,350. In settlement, Exxon agreed to pay a civil penalty of $22,000 and to destroy all remaining quantities of the illegally produced chemical substance.

Mitsubishi International Corporation (Docket No. 86-H-04)

This complaint charged Mitsubishi International with the illegal import of a chemical substance on nine separate occasions prior to the submission of a Premanufacture Notice (PMN), as required by TSCA section 5, and of violation of the U.S. Custom Service regulations promulgated pursuant to TSCA section 13. An adjusted gravity based penalty of $280,000 was proposed. In settlement of this action, Mitsubishi agreed to pay a civil

penalty of $98,000 and to return 31,000 pounds of the unregistered chemical to Japan.

BASF Corporation and BASF Inmont Division (Docket No. TSCA 87-H-05)

The Agency issued an administrative civil complaint against BASF Corporation and one of its divisions, Inmont, seeking a civil penalty of $4.3 million dollars for violation of the TSCA section 5 and 13 requirements when it imported seven chemical substances into the United States without completing the premanufacture notice requirements of TSCA and for false certification of U.S. Customs Service import certifications. Manufacturers or importers are required to notify the Agency of their intent to manufacture or import new chemicals so the Agency can evaluate any hazards posed by the chemicals before they are manufactured or brought into the United States. This was the sixth civil complaint filed against BASF or its subsidiaries for violations of TSCA, and the proposed penalty included an increased civil penalty for prior TSCA violations, in conformance with the Agency's TSCA Civil Penalty Policy. This penalty was the largest ever sought under TSCA for violations other than PCBs. EPA has not disclosed which chemicals are involved, the amounts produced or actual uses, because such information has been claimed as confidential business information under TSCA section 14.

In lieu of a trial, BASF agreed to settle this action by paying a civil penalty of $1,281,950 and to conduct a corporate-wide environmental audit of more than 150 domestic facilities.

In addition, BASF agreed to pay for the publication of TSCA-compliance public service announcements in approved trade publications and to sponsor two training seminars on U.S. TSCA requirements for European manufacturers who ship chemicals to the United States. The seminars were presented at no cost to members of the Verbund Chemischen Industries (VCI) in Frankfurt, West Germany in 1988. The environmental compliance audit is due to be completed in March, 1989. BASF has agreed to disclose all violations of TSCA discovered during the course of the audit and to pay stipulated penalties for violations.

U.S. v. Holloway Oil Company (Case No. 88-59-CIV-J-14)

The United States District Court for the Middle District of Florida handed down a Summary Judgment Order which will substantially bolster administrative enforcement. EPA filed an administrative enforcement action against Holloway in May 1985, charging the company with numerous PCB violations. When the company failed to submit a pre-hearing exchange, a Default Order was entered in December 1985 imposing a $26,000 penalty. In January, 1988, EPA filed an action in federal district court for collection of the unpaid penalty and for a permanent injunction to compel compliance with the PCB regulations.

The Court ruled that TSCA prohibits reconsideration of an administrative law judge's penalty assessment in the context of a penalty collection action filed in federal district court. The Court noted that under TSCA, Holloway could have filed a petition

for judicial review of the administrative penalty assessment within 30 days of the final assessment. Having failed to act within that period of time, Holloway forfeited its right to challenge that assessment.

Boliden Metech, Inc. v United States (Case No. 88-0081L, D.C. of Rhode Island)

On September 20, 1988, the District Court of Rhode Island issued a decision that supports the Agency's authority to obtain administrative search warrants under TSCA, potentially under other environmental statutes which give the agency inspection authority.

In July, 1987, EPA issued an administrative complaint against Boliden Metech, a precious metal salvage company. The company, located on the Providence River in Rhode Island is storing shredded computer waste containing PCBs in large uncovered piles in violation of TSCA storage and disposal regulations. EPA is concerned about the amounts of PCBs which tests show to be present in the shredded metal. An administrative hearing seeking a civil penalty was held in March, 1988 and a decision is pending.

To develop additional data on the extent of the PCBs at the site and to document PCB releases, EPA attempted to inspect the site in January, 1988. Boliden refused to allow the inspection, and EPA obtained a search warrant. The company then sought an injunction in the District Court of Rhode Island asking that the search warrant be declared illegal, and to have the Court direct

the EPA to return all of the samples obtained during the inspections. The company also asked the District Court to declare that EPA lacks the authority to obtain search warrants under TSCA because the statute does not explicitly state such authority. EPA and the Department of Justice vigorously contested Boliden's position. The Court denied the company's argument, and clearly supported EPA's use of search warrants.

U.S. v. N.O.C. Inc./Noble Oil (Case No. 87-3539 (CSF)

The District Court of New Jersey has ordered Noble Oil to pay a penalty of $40,000, plus interest for PCB violations discovered in 1980.

This action went to an EPA administrative hearing in 1982. Upon being found liable by the Administrative Law Judge Noble appealed first to the EPA Judicial Officer, then to the Court of Appeals for the Third Circuit and then to the U.S. Supreme Court. The Supreme Court denied certiorari in June of 1986 in the first TSCA enforcement case ever appealed to the Supreme Court.

In this important decision, the District Court recognizes the clear authority of the government to seek to collect civil penalties that have been administratively assessed. The Court, however, while acknowledging that it cannot review the amount or appropriateness of the penalty, did recognize that it has the jurisdiction to review issues associated with the appeal.

Villanova University (Docket No. TSCA-III-159)

In this action, EPA sought penalties of $28,000 against Villanova University for a variety of violations of the PCB

regulations including: Failure to maintain annual documents ($13,000); improper disposal (leak) ($5,000); and failure to properly store PCBs ($10,000). The PCB storage area consisted of neoprene rubber sheeting placed over steel beams.

In evaluating the appropriate civil penalty for the violations an Administrative Law Judge determined that the appropriate penalty for failing to conduct PCB transformer inspection (pre-1983) was $1,500 and failure to maintain records of the inspections was $2,000. A penalty of $2,000 was imposed for the improper storage area, for a total penalty of $5,000. The Judge also noted that Villanova was quick to remedy the violations and that it had spent about $250,000 to remove PCBs and PCB equipment from the University.

Eastman Chemicals Division, Eastman Kodak Company (Docket No. 88-H-07)

Eastman Chemicals, Kingsport, Tennessee, was charged in an administrative civil complaint on September 16, 1988, with manufacturing four chemical substances that were not listed on the TSCA Chemical Substance Inventory. TSCA section 5 requires companies to notify the Agency 90 days prior to manufacturing a substance that is not listed on the inventory. This allows the Agency to conduct a health and safety review on the substance before it is manufactured. The civil complaint proposed a penalty of $1,260,000. Eastman discovered and voluntarily disclosed the violations to the Agency. This matter is pending.

Estron Chemical, Incorporated (Docket No. TSCA 88-H-08)

Estron Chemical, Inc., Calvert City, Kentucky, was cited in an administrative civil complaint on September 26, 1988, for failing to notify the Agency prior to manufacturing a chemical substance that was not listed on the TSCA Chemical Substance Inventory. The complaint proposes a penalty of $135,000. The Agency's National Enforcement Investigations Center discovered the violations during an inspection of the company's facilities.

3M Company (Docket No. 88-H-06)

On September 2, 1988, EPA issued an administrative civil complaint against the Minnesota Mining and Manufacturing (3M) Company of St. Paul, Minnesota, assessing a $1,394,500 proposed penalty for violations of sections 5 and 13 of TSCA. The violations were voluntarily disclosed by 3M. EPA cited 3M with failing to notify EPA prior to the importation of two chemical substances that were not on the TSCA Inventory. The complaint also cites the company for falsification of certified statements that were provided to the Customs Service district director at the port of entry representing the true compliance of the chemical substances.

Enforcement Actions Involving Criminal Violations of TSCA

In both Fiscal Year 1987 and Fiscal Year 1988, there were seven ongoing investigations of criminal violations of TSCA or regulations promulgated thereunder. There were other criminal cases relating to TSCA offenses but because TSCA only provides misdemeanor penalties, charges were brought under other

environmental statutes, which provide more severe felony penalties, principally the Resource Conservation and Recovery Act (RCRA). In 1987 and 1988, the following individuals or corporations were convicted or pled guilty to violations of TSCA:

United States v Robert E. Derecktor (District of Rhode Island, Case No. 86-022)

On December 29, 1986, Mr. Robert E. Derecktor, the president of Robert E. Derecktor of Rhode Island Inc., was sentenced upon his guilty pleas to various counts of a 46-count indictment that had been filed on May 20, 1986, charging criminal violations of six environmental statutes, including TSCA. The company is the operator of a shipyard for the building and repairing of vessels located on Coddington Cove in Middletown. The company had been charged in the indictment with violations of TSCA regarding PCBs and transformers from the shipyard which were found buried at a farm in Portsmouth occupied by Robert E. Derecktor. Mr. Derecktor, on his plea of guilty to four counts of violating TSCA, was sentenced to a fine of $25,000 on each of three counts for a total of $75,000. On the fourth count, imposition of a term of imprisonment was suspended and he was placed on probation for five years, with a special condition that he certify monthly in writing to his probation office that the corporation is not in violation of any environmental laws. The company's environmental compliance is being monitored by the Agency.

United States v. Meryln Pollock (Western District of Missouri, Case No. 87-00148-01-CR-W-8)

On September 3, 1987, Mr. Merlyn Pollock pled nolo contendere to two TSCA misdemeanor counts of disposing of electrical equipment that contained PCBs, a violation of TSCA sections 15 and 16 (b). Mr. Pollock had been indicted on June 23 for burying a high voltage switch and a capacitor, along with a variety of RCRA hazardous wastes, on his property. On November 9, 1987, Mr. Pollock was fined $35,000 and placed on two years probation.

United States v. Patrick W. Paciesas (Southern District of Ohio, Case No. 87-0059)

On August 3, 1987, Mr. Patrick W. Paciesas pled guilty in front of U.S. Magistrate Robert A. Steinberg to a one-count information charging him with the knowing and willful disposal of PCB-contaminated oil in a manner not authorized by law, in violation of TSCA section 15, 16(b) and 40 CFR Part 761.60, a misdemeanor. Mr. Paciesas was president of Sea Bright Environmental Company, Inc., which is involved in the removal, transportation and disposal of hazardous waste and the decommissioning of electrical transformers and capacitors. As president, he was involved in the dumping of the PCB-contaminated oil onto the ground. On September 28, 1987, Mr. Paciesas was sentenced to two years probation, 100 hours of community service and mandatory enrollment in an alcohol treatment program.

United States v. Freeman Krum, (Middle District of Pennsylvania, Case No. 87-0071)

Mr. Freeman Krum pled guilty on May 12, 1987, to a criminal information filed under TSCA in the District Court for the Middle District of Pennsylvania. Mr. Krum agreed to plead on three misdemeanor charges for the illegal storage and disposal of PCBs and failure to maintain PCB inventory records as required by TSCA. Due to Mr. Krum's advanced age and ill health, the Court sentenced Mr. Krum to eighteen months probation for these offenses and directed that he no longer engage in any business activity relating to the handling or disposal of PCBs or other hazardous wastes.

United States v. Patrick Perrin (Western District of Missouri, Case No. 87-00187-01-CR-W-9)

On July 20, 1988, Patrick Perrin was sentenced to two years in prison, as a consequence of his February 4, 1988, guilty plea to one count of conspiracy to violate the federal laws and regulations relating to the use, treatment, transportation, storage, and disposal of PCBs. Perrin was the plant manager for the Martha C. Rose Chemical Company in Holden, Missouri which transported and disposed of, among other things, electrical transformers, capacitors and oil containing PCBs.

On August 20, 1987, Perrin was indicted on two conspiracy counts, one count of making false statements to the government, and three counts of violating TSCA's rule concerning disposal of PCBs (40 C.F.R. Part 761.60). The evidence showed that Perrin from 1983 through 1986 altered and falsified labels on barrels

containing PCBs to attempt to deceive EPA inspectors as to whether PCBs were properly disposed of within the one year time period required by EPA regulations. Company documents were also altered to falsely indicate that PCB items delivered to the facility had been properly disposed of. The company would then seek payment for such purported lawful disposal.

United States v. John Plantan (Southern District of Ohio, Case No. CR-1-88-002)

On July 25, 1988, John Plantan was sentenced, subsequent to his May 20, 1988, guilty plea to one misdemeanor count for the illegal disposal of PCB-contaminated material, to one year in jail (suspended), and two years probation. Mr. Plantan was also required to place a notice in the Cincinnati newspaper outlining his guilt in violating environmental laws (TSCA sections 15 and 16 (b), and to notify those he has done business with of his guilt. Plantan was an associate of Patrick Paciesas, president of Sea Bright Environmental Services, Inc., an Ohio corporation which was involved in the removal, transportation and disposal of hazardous waste and the decommissioning of electrical transformers and capacitors.

During 1983, in Cincinnati, Ohio, Plantan supervised the company practice of discharging PCB-contaminated oil on the ground from electrical units and from fifty-five gallon drums obtained by Sea Bright Environmental Services.

Table 5

FY '87

Administrative Civil Actions Taken Under Section 16 of TSCA, Complaints Issued, Cases Completed, and Amounts Assessed (by Regions)*

Region	Total No. Complaints Issued FY'79-87	No. Complaints Issued FY'87	Total No. Cases Completed FY'79-87	No. Cases Completed In FY'87**	Total No. of Cases Pending	Total Civil Penalties Collected ($) in FY'87	Total Penalties (In $) collected FY'79-87
1	160	50	98	24	62	289,215	772,950
2	478	128	334	93	144	418,297	2,824,112
3	271	78	192	58	79	456,892	1,260,697
4	297	113	174	31	123	40,385	469,912
5	801	186	601	171	200	442,640	5,679,519
6	307	86	256	96	51	223,424	1,759,669
7	405	144	177	34	228	305,070	816,105
8	326	111	190	54	136	275,270	736,785
9	210	61	163	64	47	366,335	1,058,790
10	253	82	85	15	168	136,976	575,071
HQ	41	12	29	9	12	1,782,500	3,737,250
TOTAL	3,549	1,051	2,299	649	1,250	4,737,004	19,690,860

* All actions taken involved alleged violations of sections 4,5,6,8, and 13.
** Includes cases carried over from FY 1980 - FY 1986.

Table 6
FY '88

Administrative Civil Actions Taken Under Section 16 of TSCA, Complaints Issued, Cases Completed, and Amounts Assessed (by Regions)*

Region	Total No. Complaints Issued FY'79-88	No. Complaints Issued FY'88	Total No. Cases Completed FY'79-88	No. Cases Completed In FY'88**	Total No. of Cases Pending	Total Civil Penalties Collected ($) in FY'88	Total Penalties (In $) collected FY'79-88
1	187	27	122	24	65	467,439	1,240,389
2	564	86	445	111	119	730,205	3,554,317
3	338	67	224	32	114	311,416	1,572,113
4	349	52	204	30	145	201,585	671,497
5	921	120	721	120	200	448,027	6,127,546
6	366	59	299	43	67	109,100	1,868,769
7	461	56	229	52	232	81,075	897,180
8	387	61	302	112	85	196,880	933,665
9	239	29	202	39	37	254,130	1,312,920
10	295	42	118	33	177	248,435	823,506
HQ	49	8	37	8	12	2,077,765	5,815,015
TOTAL	4,156	607	2,903	604	1,253	5,126,057	24,816,917

* All actions taken involved alleged violations of sections 4,5,6,8, and 13.
** Includes cases carried over from FY 1980 - FY 1987.

LITIGATION

Lawsuits are filed against EPA under TSCA either to compel EPA to undertake certain actions or to invalidate actions the Agency has already taken.

In the past, the greatest amount of defensive litigation under TSCA involved PCBs. There was extensive litigation on PCB rulemaking resulting from the 1980 decision invalidating EPA's original PCB rules. All PCB litigation after 1980, however, has resulted in EPA's agreeing to conduct additional rulemaking. Fiscal year 1988 has seen the end for all practical purposes of the PCB litigation resulting from the 1980 decision. Currently, there is only one significant active PCB lawsuit, a challenge to EPA's approval of a PCB disposal facility in Henderson, Kentucky. Occasionally, defendants in PCB administrative enforcement cases appeal judgments to the Court of Appeals.

Lately, the most significant cases are those challenging EPA actions under section 4(a) of TSCA to require testing of chemicals. Nine cases have been filed altogether. Two were filed in the early stages of the Agency testing program by a public interest group, The Natural Resources Defense Council. The earliest case, in 1980, compelled EPA to increase the speed of its testing program. The next case, in 1984, invalidated aspects of EPA's negotiated testing agreements. Seven cases have been filed over the past few years by the industry groups challenging test rules. Three, fluoroalkenes, ethylhexanoic acid, and mesityl oxide, have resulted in opinions by the Court

of Appeals. One, cumene, was being actively briefed as of the end of fiscal year 1988. The other cases are in various stages of settlement.

EPA has been sued under the section 21 citizens' petition provision to compel the Agency to regulate dioxins, to require testing of certain chemical substances present in the environment of the southeast area of Chicago, to regulate asbestos in buildings, and to amend its PCB regulations. The dioxin case has been settled. The asbestos case was effectively mooted by the passage of Title II of TSCA, the Asbestos Hazard Emergency Response Act (AHERA), which dealt with the issues raised in the suit. The Chicago testing case is still pending, after having originally been filed in 1985. Procedural motions are pending in the PCB case. EPA successfully defended its asbestos in schools regulation mandated under the Asbestos Hazard Emergency Response Act (AHERA).

A petition for review was filed several years ago with respect to the first significant new use rule under section 5(a)(2). That case has been settled.

Polychlorinated Biphenyl (PCB) Rulemaking

In 1979, the Environmental Defense Fund (EDF) petitioned for review of EPA's regulations governing the manufacture, processing, distribution, and use of PCBs. A decision largely in EDF's favor was issued on October 30, 1980, EDF v. EPA, 636 F.2d 1267 (D.C. Cir.).

As a result of the Court's orders in this case, EPA issued three additional PCB rules. In August 1982, EPA issued a regulation affecting the use of PCBs in electrical equipment; in October 1982, the Agency issued a rule providing an exclusion from the statutory ban for PCBs produced in closed manufacturing processes or discharged into wastes that are disposed of in an acceptable manner; finally, in July 1984 EPA issued a regulation affecting other PCBs inadvertently generated in chemical manufacturing processes. These rules, in turn, have generated other litigation and other regulation.

Fiscal years 1987 and 1988 litigation developments are described below.

August 1982 Electrical Equipment Rule. Previous TSCA Annual Reports described the litigation and subsequent additional rules resulting from the August 1982 rule. PCB rulemaking activities in fiscal years 1987 and 1988 are the result of a rule issued in July 1985, which placed additional restrictions and conditions on the use of PCB transformers in order to prevent risks from fires.

MISSISSIPPI POWER COMPANY v. EPA (No. 85-4498, 5th Cir.) Under the settlement EPA proposed a rule in August 1987 amending the July 1985 rule to allow approximately one additional year to phase out or institute measures to protect one class of PCB transformers. The final rule was promulgated July 19, 1988. On September 16, 1988, Mississippi Power withdrew its petition for review, thus ending this phase of the litigation.

July 1984, Inadvertent Generation Rule. In late September 1984, petitions for review of the July 1984 rule were filed by the American Die Casting Institute and Outboard Marine Corporation in the Seventh Circuit, and by the American Paper Institute and Fort Howard Paper Company in the D. C. Circuit. The Seventh Circuit petition was transferred to the D. C. Circuit where the Court consolidated all cases -- AMERICAN PAPER INSTITUTE v. EPA (No. 84-1481, D.C. Cir.) and CONSOLIDATED CASES. The Chemical Manufacturers Association was granted permission to intervene. A settlement agreement was filed with the Court in August 1986 by most of the parties. EPA agreed to propose and obtain public comment on amendments to allow certain activities involving existing stocks of very low level PCB products and materials.

EPA also agreed to make a final decision on the proposal within specified time frames. The settling parties agreed to dismiss the case if EPA would issue a final rule substantially similar to the proposed amendments. The Court was asked to hold the proceeding in abeyance until the rulemaking could be completed.

Pursuant to the settlement agreement, EPA issued a proposed rule in July 1987. A final rule was issued in June 1988, which satisfied the concerns of all petitioning parties. The court is expected to formally conclude this case during fiscal year 1989.

Citizens' Petitions

Service Employees International Union (SEIU) v. Ruckelshaus, (No. 84-2790, D.D.C.)

In November 1983, SEIU filed a citizens' petition under TSCA section 21 requesting EPA to issue rules affecting asbestos in schools and in public and commercial buildings and rules to protect employees performing abatement activities. In response to this petition EPA eventually issued rules to protect certain state and local government employees engaged in asbestos abatement. With respect to the other rules requested by SEIU, EPA stated that it granted the petition, initiated a proceeding by holding hearings to decide on its next course of action, and ultimately decided not to proceed toward proposed rules.

SEIU filed suit, in September 1984, in U.S. District Court to compel issuance of the other rules it requested for schools and other public and commercial buildings.

After several years of litigation, the court ordered EPA to propose the rules requested by SEIU for both schools and other buildings. The court reasoned, in an October 24, 1986 opinion, that EPA was obligated to propose rules because the Agency had represented that it granted SEIU's petition. The court interpreted TSCA and EPA's procedural regulations to require the Agency to propose a rule when it grants a section 21 petition to issue rules under TSCA section 6(a).

At approximately the same time as the court issued its opinion, AHERA was enacted. AHERA required EPA to issue

regulations affecting asbestos in schools and to submit a study to Congress which would assess the risks of asbestos in other public and commercial buildings and recommend whether rules were appropriate for those buildings also.

AHERA created some inconsistencies with the court order. While EPA was able to comply with the order affecting schools by meeting the AHERA mandate, AHERA created a conflict with the court's order as it applied to non-school public and commercial buildings. The order required proposed rules; AHERA only mandated a study. In June 1987, at EPA's request and in deference to Congress, the court vacated its order regarding non-school buildings.

EPA complied with both AHERA and the district court order by promulgating rules affecting asbestos in schools. EPA successfully defended these rules against a challenge in the United States Court of Appeals for the District of Columbia Circuit. See Safe Buildings Alliance v. EPA, 846 F.2d 79 (1988). This case is explained below.

In February 1988, EPA submitted to Congress its study on public and commercial buildings, concluding that rules were not yet appropriate for those buildings. SEIU, thereupon, petitioned the district court to clarify or reconsider its June 1987 order vacating the requirement for EPA to propose rules for public and commercial buildings.

Before the court could hear the parties on this motion, EPA and SEIU settled the district court litigation. The U.S.

Government paid SEIU approximately $220,000 in attorneys fees and SEIU agreed that EPA no longer had any obligations with regard to the SEIU petition. EPA agreed to consider, in accordance with TSCA section 21, any further SEIU petitions on asbestos in public and commercial buildings.

Environmental Defense Fund (EDF) and National Wildlife Federation (NWF) v. Thomas, (No. 85-0973, D.D.C.)

Plaintiffs brought this action after EPA had denied, in part, their TSCA section 21 citizens' petition to issue comprehensive regulations under TSCA on certain isomers of the chemicals known as dioxins. These are substances chemically similar in structure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and which, according to plaintiffs, may present risks similar to TCDD.

In early 1986 plaintiffs filed a motion requesting the Court to order EPA to initiate rulemaking because the Agency's explanation published in the Federal Register was improper as a matter of law. EPA opposed plaintiffs' request arguing that its denial was in accordance with statutory requirements. In March 1987, the Court denied plaintiffs' motion, stating that under TSCA the form of the denial does not affect the type of judicial action permitted under TSCA section 21. The court reasoned that, when EPA denies a section 21 petition, plaintiffs are only entitled to a de novo proceeding before the Court, regardless of the reasons stated by the Agency.

In July 1988, EDF and NWF reached a settlement with EPA under which the Agency agreed, within specified time frames over a number of years, to undertake certain actions relating to dioxins. Some actions would be under TSCA authority, but many would be taken under authority of other Agency-administered statutes. Specifically, EPA agreed to consider the appropriate Agency actions to take with respect to (1) commercial chemicals that testing shows are contaminated with dioxins, (2) activities at pulp and paper mills that could cause dioxin contamination, (3) wastes from the wood preservative industry, and (4) air emissions from municipal waste combustors. In addition, EPA agreed to issue studies on hospital waste incinerators.

In September 1988, EDF and NWF filed an appeal from the district court's opinion that they were only entitled to a de novo proceeding when EPA denied their petition.

At the end of fiscal year 1988, the parties were engaged in discussions related to settlement of attorneys fees in the district court litigation.

Citizens for a Better Environment, et al. v. Lee M. Thomas, (No.85 C 08000, N. Ill.)

In September 1985, two public interest groups challenged EPA's decision denying their petition filed pursuant to section 21 of TSCA in April 1985. The petition had requested EPA to identify business entities in the southeast area of Chicago which were releasing 11 named chemical substances into the environment and to initiate rulemaking under TSCA section 4(a) to require

testing on the chemical substances -- including testing for cumulative and antagonistic effects.

EPA denied the petition, in part, on the basis that there are no available test standards for studying cumulative effects of chemical substances. In addition the denial notice indicated that health effects data were adequate for regulatory assessment. Finally, the notice stated that EPA had already identified 44 businesses in southeast Chicago which emit pollutants into the air, and that EPA was conducting a variety of environmental investigations in southeast Chicago.

The discovery process, wherein each side may request documents and depositions from the other side, is reaching its final stages.

Two steel companies, which had intervened as defendants, filed a motion to dismiss the complaint in July 1988. They argued that TSCA section 21 violates the separation of powers doctrine of the U.S. Constitution because it authorizes a federal district court to order EPA to initiate rulemaking after a de novo trial. Plaintiffs argued that section 21 was no different from any other statute allowing a court to review agency decision making. This motion was pending before the court at the end of fiscal year 1988.

Dr. David G. Walker v. EPA, (No. H-87-3552; S.D.Tex., Houston)

In March 1987, Dr. Walker filed a citizens' petition under TSCA section 21 asking EPA to exclude from its current regulations polychlorinated biphenyls (PCBs), containing three

chlorine atoms or less. EPA denied the petition on the grounds that in previous proceedings involving PCBs the Agency had already considered, and rejected, the arguments raised by Dr. Walker. The court is currently considering various procedural motions raised by EPA and plaintiff.

PCB Activities

Michael D. Vanderveer and City of Evansville, Indiana v. EPA and Unison Transformer Services, Inc., (No. EV86-183C, D.C.Ind.) and Citizens for Healthy Progress, Inc. v. EPA, (No. 86-0155, D.C. Kentucky)

These two suits, now consolidated, were filed against EPA regarding the Agency's approval in January 1987 of a PCB disposal facility in Henderson, Kentucky. At this facility, operated by Unison Transformer Services, Inc. (Unison) PCBs are chemically separated from transformer fluid and are then shipped to other facilities where permanent disposal takes place.

Plaintiffs requested a permanent injunction against operation of the facility, stating that EPA needed to consider criteria applicable under the Resource Conservation and Recovery Act (RCRA) in addition to criteria under TSCA when approving the Unison facility and that the operation of the facility would present an unreasonable risk of harm to plaintiffs. Plaintiffs also argued that EPA lacked authority to permit the Unison process under TSCA regulations and that they were unable to evaluate the risks caused by the facility because EPA and Unison have not disclosed the identity of the chemical used to separate PCBs.

EPA argues that its approval was in accordance with its TSCA regulations and that TSCA is the appropriate authority to approve the Unison facility. The parties are awaiting the court's decision.

Jack Pierce, d/b/a Jack Pierce Waste Oil, Inc. v. EPA, (No. 86- 1486, 7th Cir.)

Jack Pierce sought review of a $29,000 penalty assessed by EPA for violation of the Agency's PCB disposal regulations. Pierce challenged EPA's determination that he owned the tanks from which PCBs spilled and the legal conclusion that he could be held personally liable for a violation alleged to be caused by his business. The case was settled under an agreement whereby EPA received a civil penalty payment of $14,000 and agreed to vacate its decision on personal liability.

New Orleans Public Service, Inc. (NOPSI) v. EPA, (No. 86-4577, 5th Cir.)

NOPSI sought review of a penalty assessed by EPA for improper disposal of PCB-contaminated transformers. NOPSI claimed it was not the owner of the transformers, which were being removed by the building owner when the spill occurred. The Court reversed the Agency's penalty order and remanded the case for further proceedings. The Agency will not seek further review.

U.S. v. Cannelton Industries, Inc., (No. 83-2406, S.D.W.Va) and Consolidated Cases.

This group of three cases resulted from a spill of PCBs from a transformer in an underground mine operated by Cannelton. EPA

filed a complaint alleging Cannelton violated the Agency's regulations regarding disposal of PCBs. Cannelton filed two suits against EPA. One suit requested that the court declare Cannelton's rights and responsibilities with respect to storage and disposal of PCBs in its mine. In the second suit Cannelton requested the Court to order EPA to initiate a proceeding to amend its PCB disposal rules. EPA and Cannelton reached an agreement on cleanup of the PCBs, which was approved by the Court in February 1986. The court has retained supervisory jurisdiction over the agreement.

Challenges to Agency Rulemaking:

Chemical Manufacturers Association v. EPA, (No. 84-1569, D.C. Cir.)

On November 19, 1984, the Chemical Manufacturers Association (CMA) filed a petition for review of the first significant new use rule EPA promulgated under section 5(a)(2) of TSCA. The rule, promulgated on September 5, 1984 (49 FR 35011), related to two chemical substances which were the subject of premanufacture notices under section 5 of TSCA. The rule also included general procedural provisions that will be applicable to all significant new use rules. In the course of informal discussions, CMA indicated that it was concerned about some of these procedural provisions. EPA indicated that it was willing to undertake further rulemaking on these provisions which was likely to meet these concerns. Accordingly, CMA agreed to defer briefing until

EPA proposed revisions to these procedural provisions. The revisions were proposed on April 22, 1986.

CMA and EPA entered into a settlement agreement under which CMA agreed to voluntarily dismiss its action if EPA promulgated revisions substantially similar to those proposed. EPA issued the revisions in question on July 27, 1988, and CMA moved to dismiss its petition for review on September 2, 1988. The Court of Appeals entered an order dismissing CMA's petition on October 3, 1988.

Shell Chemical Co. v. EPA, 826 F.2d 295 (5th Cir. 1987)

On January 7, 1986, four manufacturers of mesityl oxide (MO) and the Chemical Manufacturers Association filed in the Court of Appeals a petition for judicial review of EPA's section 4 rule requiring health effects testing of MO. The proceeding was held in abeyance pending EPA's consideration of the manufacturers' petition under section 21 of TSCA to withdraw the test rule. EPA denied the petition on August 21, 1986 (51 F.R. 30216).

The manufacturers reinstituted the lawsuit and also filed an action in District Court, on September 26, 1986, challenging the denial of their section 21 petition. The District Court stayed the case pending the outcome of the reinstituted lawsuit in the Court of Appeals.

In August 1987, the Court of Appeals remanded the case "for EPA to make supplemental findings in the administrative record concerning the changes in MO use that have occurred since the testing rule was promulgated and, if determinable, that will

occur in the foreseeable future." (826 F.2d 298) The court stayed implementation of the rule pending EPA's updated factfinding.

Since the rule is being reconsidered, the District Court litigation was dismissed without prejudice to refiling another citizens' petition should a subsequent rule be issued.

Synthetic Organic Chemical Manufacturers Association (SOCMA) & Texaco Chemical Co. v. EPA, (No. 87-3265, 3d Cir.)

SOCMA and Texaco filed a petition for review of EPA's February 1987 rule requiring a test known as the mouse visible specific locus assay for the chemical, diethylenetriamine (DETA). This assay is used to evaluate the potential for chemicals to cause heritable gene mutations. Under the rule this assay would have been required if certain initial tests showed a potential for adverse effects. In the fall of 1988, EPA reviewed the initial tests conducted on DETA and concluded that the mouse visible specific locus assay was not necessary. The parties, consequently, filed a joint motion to dismiss the case, which was granted by the court in October 1988.

Ausimont U.S.A., Inc., et al. v. EPA, 838 F.2d 93 (3d Cir. 1988)

On February 1, 1988, the U.S. Court of Appeals for the Third Circuit upheld EPA's test rule for four fluoroalkenes. The court found that Congress granted EPA broad discretion in determining when data must be produced. According to the court section 4 "prevents a testing rule based on little more than scientific curiosity, yet allows the Agency to act when an existing

possibility of harm raises reasonable and legitimate cause for concern."

The court found EPA's evidence sufficient to justify testing based on Agency concerns about the lack of scientific uncertainty. This evidence included published data showing one chemical to be a carcinogen, petitioners' inability according to the court to present a strong enough basis to fully discredit the data, EPA's assessment of the harm of one substance based on another of similar molecular structure ("structure-activity relationship" -- SAR), and worker exposure data that the court was not prepared to say would reduce the element of risk to insignificance. The court acknowledged that this level of evidence supported testing but would not necessarily support regulation.

Chemical Manufacturers Association v. EPA, 859 F.2d 977 (D.C.Cir. 1988)

On October 21, 1988, the United States Court of Appeals for the District of Columbia Circuit upheld a section 4 rule which required manufacturers to conduct health effects testing of the chemical substance, 2-ethylhexanoic acid (EHA). The court held that EPA could promulgate a test rule if it found "more than a theoretical" basis for suspecting that some amount of exposure takes place and that the chemical is sufficiently toxic at that level of exposure to present an "unreasonable risk of injury to health." Evidence needed to support a test rule was contrasted to the greater certainty needed for regulation. The court

further held that the existence of human exposure can be based on inferences drawn from the circumstances of chemical manufacture and use, and that EPA need rebut industry evidence only if that evidence succeeds in rendering the Agency's view of exposure theoretical or speculative. According to the court, an isolated or one time event could still warrant a test rule. Finally, the court held that EPA correctly applied these standards and that its findings were supported by the evidence, which the court examined in considerable detail.

Chemical Manufacturers Association v. EPA, (No. 88-1352, D.C. Cir.)

On February 26, 1988, EPA issued a testing rule for diethylene glycol ether and its acetate (DGBE/DGBA). The rule requires three tests to be conducted initially ("first tier"), and would require a "second tier" developmental neurotoxicity study if the results of the first tier tests are positive. CMA wishes to challenge the requirement for the second tier study. Since the first tier tests are not due until July 1989 and may not trigger the second tier test, the parties requested and received a stay of the litigation until September 1, 1989.

Chemical Manufacturers Association v. EPA, (No. 88-1637, D.C. Cir.)

CMA filed a petition for review of a rule issued June 15, 1988, to require testing of approximately 30 chemicals identified as hazardous waste constituents by the EPA Office of Solid Waste.

Prior to filing the suit CMA had petitioned EPA for an administrative stay of the rule, arguing that the rule poses an

unnecessary administrative burden on manufacturers who make small quantities of the chemicals for research and development purposes. EPA agrees with this critique. However, because this criticism applies to all section 4 testing rules, EPA chose to address CMA's concerns through a revised procedural rule and decided that a stay of this particular rule would not be appropriate. CMA and EPA, accordingly, have agreed to stay the litigation on this rule pending the promulgation of the procedural rule.

Chemical Manufacturers Association v. EPA, (No. 88-4710, 5th Cir.)

On September 26, 1988, CMA and five manufacturers and processors filed a petition for review of a section 4 rule requiring testing of the chemical cumene. EPA issued this rule under the authority of section 4(a)(1)(B), which authorizes the Agency to require testing if it finds that a chemical is produced in substantial quantities and that it is released into the environment in substantial quantities or that there is or may be substantial exposure to the chemical.

Along with its petition for review, CMA filed a motion for stay of the rule arguing that, pending the decision on the merits, the manufacturers would be irreparably harmed by being forced into non-recoverable start-up costs for testing. CMA argued that these costs would be unfair because CMA was likely to succeed on the merits of the case.

CMA supported its argument of likely success on the merits by challenging EPA's interpretation of the section 4(a)(1)(B) standard. EPA had justified testing based on a finding that exposure to large numbers of persons constitutes substantial exposure. CMA argues that the rule must also be supported by evidence on the levels of exposure to those persons and that, in any event, EPA's evidence does not show that large numbers of persons will be exposed to the chemical.

Safe Buildings Alliance (SBA) v. EPA, 846 F.2d 79 (D.C. Cir. 1988)

The D.C. Court of Appeals upheld EPA's asbestos-in-schools rules issued under the Asbestos Hazard Emergency Response Act (AHERA). The rules had been challenged by SBA -- an association of companies that formerly manufactured asbestos products. The court extended substantial deference to EPA, holding that the Agency's rules were reasonable in light of the somewhat contradictory demands of AHERA, the uncertainties regarding the health effects of low level asbestos exposure, and the tight timetable AHERA imposed on EPA to issue regulations.

In August 1988, National Gypsum Company, one of the petitioners before the Court of Appeals, filed a petition for certiorari before the Supreme Court. The briefs on this petition by both National Gypsum and EPA essentially repeated the arguments made before the Court of Appeals.

OTHER TSCA ACTIVITIES

State Programs

Section 28(c) of TSCA authorizes EPA to award grants to states for programs to prevent or eliminate problems created by toxic substances that EPA is unable or unlikely to act upon under TSCA.

There were no grants administered under TSCA in Fiscal Years 1987 and 1988. Grants associated with asbestos were administered under the authority of the Asbestos School Hazard Abatement Act.

Major Problems

No major problems in administering TSCA were encountered in Fiscal Years 1987 and 1988.

Recommended Legislation

During 1987 and 1988 EPA did not determine that legislative changes to TSCA were required.

APPENDIX A

Major FY 1987 TSCA Actions

Section of Law	Description	Date
4(a)	For listing of testing decisions see Table 1.	
4(b)	Revision of TSCA Test Guidelines (Final Rule)	05/20/87
	Test Guidelines Published - Site-specific aquatic microcosm test - Hydrolysis rate - Generic freshwater microcosm test - Soil core microcosm test - Soil microbial community toxicity test - Rhizobium/legume chronic toxicity test	09/28/87
5*	Significant New Uses of Chemical Substances; General Provisions for New Chemical Follow-up (Proposed Rule)	04/29/87
5(a)(2)	Trichlorobutylene Oxide, Epibromohydrin, and Hexafluoropropylene Oxide, Proposed Significant New Use Rule (3 chemicals)	01/02/87
	PBBs and Tris; Final Significant New Use Rule (9 chemicals)	01/26/87
	Ethanol, 2-amino-, compound with N-hydroxy-N-nitrosobenzenamine (1:1) (P86-542) Proposed Significant New Use Rule (1 chemical)	03/25/87
	Methyl-n-butyl ketone; Final Significant New Use Rule (1 chemical)	04/13/87
	11-Aminoundecanoic Acid; Final Significant New Use Rule (1 chemical)	05/28/87
	1-Chloro-2-bromoethane; Proposed Significant New Use Rule (1 chemical)	09/04/87

* Also under authority of TSCA sections 8 and 26(c)

5(e)	Consent Order; Acrylate modified alicyclic urethane (P86-549)	10/06/86
	Consent Order; Halogenated pyridine derivative (P85-1184)	10/06/86
	Consent Order; Amines, tri (C11-14 ISO-C13 rich) (P85-265)	10/09/86
	Consent Order with Testing Trigger; Nonyltoluene (P86-78)	10/10/86
	Consent Order; Substituted pyridine disazo dye (P85-735)	11/07/86
	Consent Order; t-Amyl peroxy mono carbonate (P86-473)	11/07/86
	Consent Order with Testing Trigger; Perfluoroalkyl epoxide (P86-562)	11/13/86
	Consent Order; Unsaturated dimer acids, polyester, epoxidized (P86-628)	11/13/86
	Consent Order with Testing Trigger; Perfluoroalkyl epoxide (P86-872)	11/13/86
	Consent Order with Testing Trigger; Perfluoroalkyl epoxide (P86-873)	11/13/86
	Consent Order With Testing Trigger; Vinyl chloride-vinyl acetate hydroxyl modified copolymer (P85-1388)	11/20/86
	Consent Order with Testing Trigger; Dialkyl substituted propionamide (P86-266)	12/03/86
	Consent Order with Testing Trigger; Sodium, pyridine, water (P86-1263)	12/09/86
	Consent Order; Aromatic amino compound (P86-334)	12/10/86
	Consent Order; Aromatic nitro compound (P86-335)	12/10/86
	Consent Order; Substituted pyridine (P86-838)	01/03/87
	Consent Order; Monosubstitutedalkoxyamino-triazine (P86-1043)	01/09/87
	Consent Order; Monosubstitutedalkoxyamino-triazine (P86-1044)	01/09/87

Consent Order; Acrylate ester (P86-924)	01/14/87
Consent Order; Substituted alkyl peroxy-2-ethyl hexanoate (P86-1492)	01/21/87
Consent Order; Substituted alkyl peroxyhexane carboxylates (mixed isomers) (P86-1493)	01/21/87
Consent Order; 3-Hydroxy-1,1-dimethyl butyl derivation (P86-1491)	01/21/87
Consent Order; Urethane acrylate with pendant hydroxy and carboxyl groups (P86-1088)	01/28/87
Consent Order; Substituted nitrobenzoic acid, derivative (P86-1098)	01/28/87
Consent Order with Testing Trigger; Anionic polymer (P86-1293)	02/09/87
Consent Order; Alkoxylated diol diacrylate (P86-649)	02/11/87
Consent Order; Transition metal trichalcogenide (P86-1021)	02/28/87
Consent Order; Aromatic methyl oxirane (P86-940)	03/23/87
Consent Order with Testing Trigger; Substituted acetic acid, mixed sodium and potassium salts (P86-530)	03/30/87
Consent Order with Testing Trigger; Substituted acetic acid, potassium salt (P86-531)	03/30/87
Consent Order with Testing Trigger; Substituted acetic acid, sodium salt (P86-532)	03/30/87
Consent Order; Alkyl substituted pyridine (P86-831)	04/03/87
Consent Order; Benzotriazole derivative (P86-1771)	04/03/87
Consent Order; Napthalene, 1,2,3,4-tetrahydro(1-phenylethyl) (P85-1331)	04/15/87
Consent Order; Maleic acid half-ester functionalized with alkenyl ether groups (P86-1122)	04/15/87

Consent Order; Capped aliphatic isocyanate (P86-1146)	04/15/87
Consent Order; Aryloxy substituted alkyl aryloxate (P86-1692)	04/15/87
Consent Order; Acrylylalkyl substituted benzenepolyolcarboxylic acid derivative (P86-1739)	04/15/87
Consent Order; Sulfite ester of 2,2'-methylene-bis-(4-methyl-6-T-butylphenol), 2,2'-methylene-bis-(4-methylphenol), toluene, tripropylamine, methacrylic acid, dimethacrylic acid (P87-147)	04/15/87
Consent Order; 1,4-benzenedisulfonic acid, 2, 2'-[1, 2-ethenediylbis[3-sulfo-4, 1-phenylene) imino[6-[(disubstituted)amino]-1,3,5-triazin-4, 2-diyl]imino]]bis-, hexasodium salt (P86-477)	05/11/87
Consent Order; 1,4-benzenedisulfonic acid, 2, 2'-[1, 2-ethenediylbis[3-sulfo-4, 1-phenylene) imino[6-[(disubstituted)amino]-1,3,5-triazin-4, 2-diyl]imino]]bis-, hexasodium salt (P86-478)	05/11/87
Consent Order with Testing Trigger; Polyamine adduct (P85-1239)	05/15/87
Consent Order with Testing Trigger; Polyamine adduct (P85-1240)	05/15/87
Consent Order with Testing Trigger; Propoxylated quaternary amine (P86-331)	05/15/87
Consent Order; Boron ester (P86-1252)	05/15/87
Consent Order; 2-Butenedioic acid (Z-), mono 2-(1-oxo-2-propenyl)oxy ethyl-ester (P85-543)	05/22/87
Consent Order; 2-propenoic acid, 2-methyl-, 7,7,9-trimethyl-4,13-dioxo-3,14-dioxa-5, 12-diaza hexadecane-1,16-diylester (P85-544)	05/22/87
Consent Order; 2-propenoic acid-3-(dimethylamino)-2,2-dimethyl-propyl ester (P85-545)	05/22/87
Consent Order; 2-propenoic acid, 2-methyl-3,3,5-trimethyl-cyclohexylester (P85-546)	05/22/87
Consent Order; 2-propenoic acid, 3,3,5-trimethylcyclohexylester (P85-547)	05/22/87

	Consent Order with Testing Trigger; Aromatic diamine, thio-methylated (P86-1322)	05/22/87
	Consent Order with Testing Trigger; Halogenated phosphate ester (P86-1662)	06/19/87
	Consent Order; Fluoroalkyl epoxide (P86-1250)	06/23/87
	Consent Order; Aryl azo thiophene (P87-304)	07/01/87
	Consent Order; Propylene oxide, hydroxethyl acrylate, monoethyl ether of hydroquinone, water (P86-832)	07/01/87
	Consent Order; Functional acrylate methacrylate polymer (P86-1325)	07/18/87
	Consent Order with Testing Trigger; alkanaminium, polyalkyl-salt, polymer with acrylamide and substituted alkyl methacrylate (P87-252)	08/14/87
	Consent Order; Azlactone (P86-1634)	08/26/87
	Consent Order; Phthalic acid polymer of new substance (P86-1629)	09/15/87
	Consent Order with Testing Trigger; Aliphatic polyester (P87-10)	09/22/87
	Consent Order; Styrenated hydroxyfunctional methacrylic acrylic polymer (P87-739)	09/23/87
6	Procedures for Rulemaking Under Section 6 of TSCA (Proposed Rule)	06/17/87
6(a)	Asbestos Abatement Projects; Worker Protection (Final Rule)	02/25/87
6(e)	Polychlorinated Biphenyls Spill Cleanup Policy (Final Rule)	04/02/87
	Polychlorinated Biphenyls; Exclusions, Exemptions and Use Authorization (Proposed Rule)	07/08/87
	Polychlorinated Biphenyls in Electrical Transformers (Proposed Rule)	08/21/87
8(a)	Comprehensive Assessment Information Rule (Proposed Rule) (47 chemicals)	10/07/86

	Preliminary Assessment Information Reporting; Addition of 19th ITC List Chemicals (4 Chemicals) (Final Rule)	11/14/86
	Hexafluoropropylene Oxide; Submission of Notice of Manufacture, Import or Processing (Proposed Rule)	01/02/87
	Addition of Chemicals to Information Rules; Certain Pesticide Inert Ingredients (31 Chemicals) (Proposed Rule)	05/14/87
	Chemical Information Rules; Addition of Chemicals (24 chemicals) (Proposed Rule)	05/14/87
	Preliminary Assessment Information and Health and Safety Data Reporting; Addition of 20th ITC List chemicals (4 chemicals) (Final Rule)	05/20/87
	11-Aminoundecanoic Acid; Submission of Notice of Manufacture, Import or Processing (Final Rule)	05/28/87
	Anthraquinone; Final Reporting and Recordkeeping Requirements (Final Rule)	06/04/87
	Polyhalogenated Dibenzo-p-Dioxins/Dibenzofurans; Reporting Requirements (Final Rule)	06/05/87
8(c)	Polyhalogenated Diobenzo-p-Dioxins/Dibenzofurans; Reporting Requirements (Final Rule)	06/05/87
8(d)	Health and Safety Data Reporting; Addition of 19th ITC List Chemicals (4 Chemicals) (Final Rule)	11/14/86
	Health and Safety Data Reporting; Submission of Lists and Copies of Health and Safety Studies on Certain Substances (102 chemicals) (Final Rule)	05/01/87
	Addition of Chemicals to Information Rules; Certain Pesticide Inert Ingredients (36 chemicals) (Proposed Rule)	05/14/87
	Preliminary Assessment Information and Health and Safety Data Reporting; Addition of 20th ITC List Chemicals (4 chemicals) (Final Rule)	05/20/87
	Polychlorinated Dibenzo-p-Dioxins/Dibenzofurans; Reporting Requirements (Final Rule)	06/05/87

26(b)	Proposed Fees for Processing Premanufacture Notices, Exemption Applications and Notices, and Significant New Use Notices (Proposed Rule)	04/20/87
	CHEMICAL ADVISORY	
	2-Nitropropane	
	Toluenediamines (TDAs)	12/03/86

APPENDIX B

Major FY 1988 TSCA Actions

Section of Law	Description	Date
4(a)	For list of testing decisions see Table 2.	
5(a)(2)	Trichlorobutylene Oxide; Epibromohydrin; and Hexafluoropropylene Oxide; Final Significant New Use Rule (3 chemicals)	10/27/87
	1-Chloro-2-bromoethane; Final Significant New Use Rule (1 chemical)	02/02/88
	Benzenamine, 4-chloro-2-methyl; Benzenamine, 4-chloro-2-methyl, hydrochloride; Benzenamine, 2-chloro-6-methyl; Proposed Significant New Use Rule (3 chemicals)	09/16/88
	1-Decanamine, N-decyl-N-methyl-N-oxide (P86-566); Proposed Significant New Use Rule (1 chemical)	12/08/87
	Diphenyl-2,4,6-trimethylbenzoyl phosphine oxide (P86-586); Proposed Significant New Use Rule (1 chemical)	02/02/88
	Significant New Use Rules; Amendments to General Provisions; Final Rule	07/27/88
5(e)	Consent Order; Saturated polyester (P86-1686).	10/09/87
	Consent Order; Pseudomonas fluorescens (P87-1292).	10/19/87
	Consent Order with Testing Trigger; Substituted 1,6-dihydroxy napthalene (P87-1036).	10/30/87
	Consent Order; Acrylated polyurethane (P87-760).	11/04/87
	Consent Order with Testing Trigger; Acrylated alkoxylated aliphatic polyol (P84-713)	11/17/87
	Consent Order; Phthalic polyester (P87-262)	01/19/88

Consent Order; Aliphatic polyester with neopentyl glycol (P87-293)	01/19/88
Consent Order; Dialkenylamide (P87-502)	01/19/88
Consent Order; 19 C9 (OCH2 CH2)YOCH2OCH2-OH (P86-1489)	02/01/88
Consent Order; 2-Naphthalene carboxamide-N-aryl-3-hydroxy-4-aryl azo (P87-1265)	02/01/88
Consent Order; Alkyloamide (P86-1315)	02/02/88
Consent Order; Alkylated aromatic diamine (P85-929)	02/19/88
Consent Order; 1-Oxa-4-azastiro[4.5]decane, 4-(dichloroacetyl)- (P86-1648)	02/24/88
Consent Order with Testing Trigger; Tetraglycidylamine (P86-500)	03/02/88
Consent Order with Testing Trigger; Tetraglycidylamine (P86-502)	03/02/88
Consent Order with Testing Trigger; Aromatic diamine (P86-503)	03/02/88
Consent Order with Testing Trigger; Aromatic diamine (P86-501)	03/02/88
Consent order; Genetically engineered strain of Rhizobium Meliloti containing a recombinant plasmid (P87-568)	03/09/88
Consent order; Genetically engineered strain of Rhizobium Meliloti containing R. Meliloti NIF genetic material carried on a plasid (P87-569)	03/09/88
Consent Order; Genetically engineered strain of Rhizobium Meliloti containing R. Meliloti NIF genetic material carried on a plasid (P87-570)	03/09/88
Consent Order with Testing Trigger; Methylene-bis-trisubstituted aniline derivative (P87-90)	04/25/88
Consent Order; Poly(amino/hydroxyalkylaminomethyl) urea (P87-1123)	05/04/88
Consent Order; Polyamine urea-formaldehyde condensate (P87-1456)	05/04/88

	Consent Order with Testing Trigger; Methylene-bis(substituted) aniline derivative (P87-790)	05/06/88
	Consent Order with Testing Trigger; Cyclic halophosphite (P87-1657)	05/12/88
	Consent Order; Nitroaromatic thiazoic and derivative (P88-270)	05/12/88
	Consent Order with Testing Trigger; Substituted thioazino salt (P88-63)	05/12/88
	Consent Order with Testing Trigger; Tetrachloroethylene (solvent) (P88-217)	05/26/88
	Consent Order; 2-hydroxyethyl methacrylate, maleic acid, maleic acid anhydride (P87-1159)	07/03/88
	Consent Order; 4,4'methylene bis (oxethylene diphenol, referred to as MOD (P87-1760)	07/14/88
	Consent Order with Testing Trigger; metalated alkylphenol copolymer (P87-723)	08/01/88
	Consent Order; Aryloxalkyl halide (P87-1471)	09/13/88
	Consent Order; Aminopolyamide - epichlorohydrin resin (P84-1182)	09/20/88
	Consent Order; Aminopolyamide - epichlorohydrin polymer (P84-1183)	09/20/88
6	Prohibition of Hexavalent Chromium Chemicals in Comfort Cooling Towers; Proposed Rule	03/29/88
6(e)	Polychlorinated Biphenyls; Exclusions, Exemptions and Use Authorizations; Final Rule	06/27/88
	Polychlorinated Biphenyls in Electrical Transformers; Final Rule	07/19/88
	Polychlorinated Biphenyls; Manufacturing, Processing, and Distribution in Commerce Exemptions; Proposed Rule	08/24/88
	Polychlorinated Biphenyls; Notification and Manifesting for PCB Waste Activities; Proposed Rule	09/26/88
8(a)	Hexafluoropropylene Oxide; Submission of Notice of Manufacture, Import or Processing; Final Rule	10/27/87

	Preliminary Assessment Information Rule; 21st ITC List; Final Rule (6 chemicals)	11/20/87
	Preliminary Assessment Information Rule; Addition of Chemicals; Final Rule (18 chemicals)	03/31/88
	EDTMPA and its Salts; Submission of Notice of Manufacture or Import; Proposed Rule (14 chemicals)	04/29/88
	Preliminary Assessment Information Rule; 22nd ITC List; Final Rule (10 chemicals)	05/20/88
8(c)	Chlorendic Acid/Anhydride; Request for Records and Reports Regarding Significant Adverse Reactions; Notice (2 chemicals)	12/21/87
	Specified Members of the Categories Tri(Alkyl/Alkoxy) Phosphates and Diisocyanates; Request for Records and Reports Regarding Significant Adverse Reactions; Notice (51 chemicals)	01/19/88
8(d)	Health and Safety Data Reporting; 21st ITC List; Final Rule (6 chemicals)	11/20/87
	Health and Safety Data Reporting; 22nd ITC List; Final Rule (8 chemicals)	05/20/88
	Health and Safety Data Reporting; Period Terminations; Final Rule (37 chemicals and 5 chemical categories)	09/30/88
21	PCBs: Denial of Citizen's Petitions; Final Rule	07/02/87
26 (b)	**Fees for Processing Premanufacture Notices; Exemption Applications and Notices, and Significant New Use Notices; Final Rule**	08/17/88
203	**Asbestos-Containing Materials in Schools, Final Rule**	**10/30/87**